TNO Quality of Life

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Health and safety at work
Results of the Labour Force Survey 2007 ad hoc module on accidents at work and work-related health problems

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1 Preface and acknowledgements

This publication is supported by the European Community Programme for Employment and Social Solidarity (2007-2013). This programme was established to financially support the implementation of the objectives of the European Union in the employment and social affairs area, as set out in the Social Agenda, and thereby contribute to the achievement of the Lisbon Strategy goals in these fields.'

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2 Introduction

The European Commission, DG Eurostat, Statistical Office of the European Communities, Unit F5 Health and Food Statistics issued an open invitation to tender No 2007/S 104-127561. The subject of this tender is to supply statistical services, more specifically the statistical analysis and publication of the Labour Force Survey (LFS) 2007 ad hoc module results on accidents at work, work related diseases, and harmful exposures. The underlying publication is one of the outcomes of this tender.

The results of the study we describe in this publication are closely related to the goals and mission of Eurostat and the policy agenda of European Commission to improve the quality of the working situation in the Member States. This policy is communicated by the Community strategy papers of the European Commission and by the Social Agenda (2005-2010). Both policy intentions will be shortly described and related to the project and the underlying publication.

In the third section of this chapter the Labour Force Survey and its ad hoc module will be presented. The chapter ends with a description of the goals of the project and an overview of the report.

2.1 Community strategy

In 2002 the Commission defined a new Community strategy for the period 2002-2006.[1] The objective of this Strategy was to bring about a continuing improvement in well-being at work. Important objectives were a continuous reduction in accidents at work and illnesses. Furthermore, the adoption and application in recent decades of a large body of Community laws (Policy based on Article 137 of the EC Treaty) led to a considerable improvement of working conditions in the EU Member States and reduction in the incidence of work-related accidents and illness.[2]

In spite of the progress achieved, there are several reasons to continue the promotion of health and safety at work. Results of the fourth European Working Conditions Survey (EWCS) for instance show that many workers in Europe still perceive their job as a threat to their health or safety. In addition, occupational hazards are not reduced in a uniform way and categories of workers, companies and sectors are still overexposed (e.g. young and older workers, SMEs, agriculture). Furthermore, European Member States face a number of important challenges regarding health and safety at work (e.g. ageing of the working population, new employment trends, new and larger flows of migrants towards Europe, and the number of women at work). At the same time the nature of occupational hazards is changing due to innovation, the emergence of new risk factors (e.g. violence at work) and changing work patterns (work life becoming more fragmented).

[1] Communication from the Commission COM (2002) 118 final of 11 March 2002: 'Adapting to change in work and society: a new Community strategy on health and safety at work 2002-2006'.

[2] Communication from the Commission COM (2007) 62 final. 'Improving quality at work: Community strategy 2007-2012 on health and safety at work'

Therefore, the European Commission defined the Community strategy 2007-2012 to continue the promotion of health and safety at work during the next five years.[3] The primary objective of the Community strategy 2007-2012 is an ongoing, sustainable and uniform reduction in accidents at work and occupational illnesses. The aim is to achieve an overall reduction in the total incident rate of accidents at work per 100,000 workers in the EU27 of 25% during this period.

The project that was carried out relates to the objectives of both strategy papers, by offering the statistical analysis and publication of the Labour Force Survey (LFS) 2007 ad hoc module data and related occupational health and safety data. The results of this project offer ample opportunities to locate sectors, occupations, and employment groups at risk. This information can be used by the European Commission and other parties to define objectives and evaluate the effectiveness of policy measures regarding accidents at work, occupational diseases and harmful exposures. It points at parts and groups in the economy that can be candidates for the implementation of preventive programs directed at reducing risks and improving working conditions. In the end, this will result in reducing occupational accidents, work-related diseases and harmful conditions.

2.2 Social Agenda: PROGRESS

Another policy objective related to the execution of this project is formulated in the Social Agenda (2005-2010). In this Agenda, the European Union has fixed as its overall strategic goal to promote more and better jobs and to offer equal opportunities for all citizens. Implementation of this policy relies on two distinct Community programmes that are now integrated into one framework programme: PROGRESS. The overall aim of PROGRESS is to financially support the implementation of the objectives of the European Union in the employment and social affairs area, as set out in the Social Agenda, and thereby contribute to the achievement of the Lisbon Strategy goals in these fields. More specifically this is worked out in five policy sections which intend to improve: (1) Employment, (2) Social protection and inclusion, (3) Working conditions, (4) Antidiscrimination and Diversity (5) Gender Equality.

The project that was carried out is issued in the context of the implementation of the 2007 annual Plan of Work of the programme PROGRESS. The promotion of gender mainstreaming is one of the key objectives of this program, and also required in case of projects financed by the Commission. There was no problem related tot this requirement for this project, because equal distribution of women and men is completely accepted in the proposed team, including accessibility for disabled people and differences in ethnic origin, religion, and age.

2.3 Labour Force Survey and 2007 Ad Hoc Module on health and safety at work

The Labour Force Survey (LFS) is a rotating random sample survey of persons in private households. It provides population estimates for the main labour market characteristics and is organised in thirteen modules, covering demographic background, labour status, employment characteristics of the main job, hours worked, employment characteristics of the second job, time-related underemployment, search for employment, education and training, previous work experience of persons not in employment, situa-

[3] Communication from the Commission COM (2007) 62 final. ‘Improving quality at work: Community strategy 2007-2012 on health and safety at work’.

tion one year before the survey, main labour status, income and technical items relating to the interview. It provides annual information on employment and related variables in EU Member States. The LFS 2007 covers the 27 Member States of the European Union, Croatia, Macedonia, Turkey, Iceland, Norway and Switzerland. The ad hoc module covers the EU27, Croatia, Norway and Iceland[4].
The EU Labour Force Survey divides the population of the European Union of working age (15 years and above) into three mutually exclusive and exhaustive groups:

1. persons in employment;
2. unemployed persons, and
3. inactive persons.

The main goal of this survey is to provide descriptive and explanatory data on each of these categories. Respondents are assigned to one of these groups on the basis of the most objective information possible obtained through the survey questionnaire, which principally relates to their actual activity within a particular reference week.

Since 1999 ad hoc modules with questions on specific subjects are added to the questionnaire of LFS. In 1999 and 2007 an ad hoc module with eleven questions on accidents at work, work-related diseases and hazardous exposures was added. The aims of this module are:

1. To collect harmonised statistical data on those work-related health problems (including exposures) which are not covered by the administrative data collection methodologies (ESAW and EODS), and
2. To be able to analyse the health and safety at work data according to Labour Market related variables available in the LFS but not included in ESAW and EODS.

The module and the entire database of the LFS provide for a rich source of survey data that can give important additional policy information that is not available in national registrations. Accident and disease data collected by means of the module can be related to a multitude of other labour market and socio-demographic variables in the survey. And at an aggregate level this information can also be related to the information in other types of research and registration databases collected under EC responsibility.

2.4 Goals of the study

With the introduction in the preceding paragraphs it was illustrated that analysis and publication of the LFS 2007 ad hoc module results takes place in an enduring and rich European tradition of analysis and publication of comparable and related datasets. The main goal of the study was:

"To perform a sophisticated statistical analysis, including descriptive and multivariate analysis, of the HSW data provided by the LFS 2007 ad hoc module, in order to compare the occurrence of accidents at work, work-related diseases and harmful exposures according to various parameters describing the characteristics of the worker, workplace and employment situation."

The results of this statistical analysis that will be the basis for dissemination of the results, are presented in the underlying publication. Additionally, a "Statistics in Focus" publication was prepared, as well as multidimensional tables for Eurostat's website. Finally, in 2009 a statistical publication on Health and Safety at Work in the EU will

[4] The data from Iceland were not ready for analysis at the time of this study.

be prepared, describing the LFS 2007 ad hoc module results and other the key statistical EU level data in the field of Health and Safety at Work.

2.5 Organisation of the report

The outline of the remainder of this report is as follows:

Description of the 2007 ad hoc module (chapter 3)

Quality assessment (chapter 4)
- Evaluation of interview techniques;
- Non-response analysis;
- Wording evaluation.

Accidents at work (chapter 5)
- Occurrence;
- Related factors.

Work related health problems (chapter 6)
- Occurrence;
- Related factors.

Harmful exposure (chapter 7)
- Occurrence;
- Related factors.

Conclusions and recommendations (chapter 8)
- Quality assessment;
- Accidents at work;
- Work-related health problems;
- Harmful exposure;
- Recommendations.

ANNEXES
- A Proposed wording of the LFS ad hoc module questionnaire;
- B Codes and classifications;
- C Methodological notes;
- D Wording evaluation questionnaire;
- E Results of the wording evaluation;
- F Additional tables for accidents at work;
- G Additional tables for work-related health problems;
- H Additional tables for harmful exposure.

3 Description of 2007 ad hoc module

3.1 Focus and target group

The specifications of the ad hoc module have been adopted in Commission Regulation (EC) No 341/2006 of 24.02.2006. The aim of this ad hoc module is to provide a description of the occurrence of accidents at work and of non-accidental work-related ill-health and in particular:

- to know the number of cases and days lost because of accidents at work and of non-accidental work-related ill-health problems;
- to analyse the differences in the occurrence of these accidents and health problems by factors linked to the employment characteristics of the worker and factors linked to the employer's characteristics;
- to know about the occurrence of factors at work that can adversely affect health.

Given the political background and the political needs explained above the practical aims of the ad hoc module are:

1. to collect harmonised statistical data on those work related health problems (including exposures) which are not all covered by the administrative data collection methodologies (ESAW and EODS);
2. to be able to analyse the health and safety at work data according to labour market variables available in the LFS but not included in ESAW and EODS.

The target population for the ad hoc module consists of persons aged 15 or more. For accidents at work the additional filter is on everybody who is working or has worked during the past 12 months. For work-related health problems the filter is on everybody who is working or has worked previously. Finally, the filter for hazardous exposure is on every body who is working at the time of the survey administration.

3.2 Description of the variables available in the ad hoc module

The ad hoc module is part of the LFS 2007, and contains eleven variables which are presented in Table 3.1. For the proposed wording of the questionnaire see Annex A.

3.2.1 Accidents at work

The aim is to know if the person has had an accident at work during the past 12 months. Only those accidents that occurred at work or in the course of the work of the interviewed person are considered. All other types of accidents are excluded:

- accidents occurred in the course of traveling between home (usual place of meals also) and the workplace (commuting accidents);
- home and leisure accidents;
- road traffic or transport accidents in the course of private activities.

Occupational diseases or illnesses are also excluded. An accident is a discrete occurrence, illnesses or other health conditions which develop over a long time should not be included. The concept of an accident includes also cases of acute poisoning and wilful acts of other persons. However, deliberate self-inflicted injuries are excluded.

Table 3.1 Variables from the Labour Force Survey (LFS) 2007 ad hoc module on health and safety at work

Column	Variable	Categories
Accidents at work encountered by persons having worked in the last 12 months		
209	Accidental injury(ies), apart from illnesses, occurred during the past 12 months, at work or in the course of work	1 digit, 4 categories
210	Type of the most recent accidental injury at work or in the course of work	1 digit, 3 categories
211/212	Date when the person was able to start to work again after the most recent accidental injury	2 digits, 12 categories
213	Job done when the most recent accidental injury occurred (code first that applies)	1 digit, 6 categories
Work-related health problems suffered during the last 12 months (apart from accidental injuries)		
214	Illness(es), disability(ies) or other physical or psychic health problem(s), apart from accidental injuries, suffered by the person during the past 12 months (from the date of the interview) and that was (were), caused or made worse by work	1 digit, 4 categories
215/216	Type of the most serious complaint caused or made worse by work	2 digits, 12 categories
217	Whether the most serious complaint caused or made worse by work limits the ability to carry out normal day-to-day activities either at work or outside work	1 digit, 4 categories
218/219	Number of days off work during the last 12 months due to the most serious complaint caused or made worse by work	2 digits, 11 categories
220	Job that caused or made worse the most serious complaint (code first that applies)	1 digit, 6 categories
Factors at work that can adversely affect mental well-being or physical health		
221	Whether at the workplace the person has particular exposure to selected factors that can adversely affect his/her mental well-being	1 digit, 5 categories
222	Whether at the workplace the person has particular exposure to selected factors that can adversely affect his/her physical health	1 digit, 5 categories

The term "in the course of work" means “whilst engaged in an occupational activity or during the time spent at work”. Any accident occurred during working time, even if it has not occurred during the usual work or in the usual workplace of the person, has to be taken into consideration. From this follows that, during work, all types of accidents in a public place or means of transport, either if it is the usual workplace or during a journey in the course of work, should be considered as an accident at work and are included. Finally, accidents at lunch time, or any other break, inside the premises of the enterprise are also be included.

3.2.1.1 Type of accident

An additional aim is to know whether the most recent accidental injury at work was due to a road traffic accident or to some other type of accident. This separation is needed when the ad hoc module results are compared with administrative accident statistics, which have national differences in the way of dealing with accidents happening in road traffic during work.

Only those accidents that occurred at work or in the course of the work of the interviewed person are considered. All other types of accidents are excluded: as accidents occurred in the course of travelling between home (usual place of meals also) and the

workplace (commuting accidents), home and leisure accidents or road traffic accidents or other transport accidents in the course of private activities. Road traffic accidents include all accidents (at work or in the course work) in public roads, public or private car parks provided the accident happens in the course of work. The victim may be either on board of a means of transport (driver or passenger) or a pedestrian. Road traffic accidents include both accidents in which the victim's main professional activity is related to the transport (e.g. lorry or bus drivers) and accidents in which the victim was occasionally in road traffic in the course of work (e.g. a manager going on his/her way to a business meeting outside of the enterprise).

Accidents that happen inside the premises of the company on non-public roads within the factory area are not considered as road traffic accidents. Not a road traffic accident are accidents that are related to machines which are used outside of the public roads (e.g. forklift trucks, bulldozers, tractors in farming fields, forestry-related machines in forests, etc.). If such a machine was on a public road at the time of the accident, it is, however, a road traffic accident.

3.2.2 Work-related health problems

The aim is to know if the person has an illness, disability or physical or psychic health problem caused or made worse by work (current or past) and from which he/she had suffered during the past 12 months. And in case yes, from how many such illnesses, disabilities or health problems he/she had suffered during that period of time.

Any complaint suffered by the person during the 12 months reference period is included if the person considers himself/herself that this complaint is caused or made worse by work (past or current). This means that the work-related problems is not be restricted to cases reported or recognised by the authorities, but all cases even those without time off work are included provided the above criteria are satisfied. Any work at any time, even years back in time, is taken into consideration. In the latter case, the onset of the health problem could have been more than a year before the interview, but if the victim still suffered from this problem during the 12 months reference period, it is taken into consideration. But, if the victim has not suffered from the work-related health problem during the 12 months reference period the case should not be included.

3.2.2.1 Type of work-related health problem

The aim is to know the type of the complaint caused or made worse by the work, or in case of several such complaints, the type of the most serious one.

In cases where the person suffered from more than one work-related health problem during the 12 months reference period, only the most serious of these is considered. In this assessment there should be no distinction between complaints caused by work and those made worse by work, only seriousness of the complaint should be assessed. It should be the complaint most severe from a medical point of view, in general the complaint which had the biggest impact on his/her activities.

3.2.3 Hazardous exposure

3.2.3.1 Mental well-being

The aim is to know whether the respondent considers that he/she has at the workplace particular exposures to any of the mentioned factors that can adversely affect his/her mental well-being. The workplace exposure and the mental well-being are considered from the point of view of the worker him/herself. Workplace refers to the usual geo-

graphical environment of work, usually it is the local unit or establishment where the respondent carries out his/her work activities, but for certain workers (e.g. forestry workers, firemen) is taken as the general environment where the work is usually carried out. Exposure refers to existence of the mentioned factors (harassment or bullying, violence or threat of violence, etc.) that may adversely affect the mental well-being of the worker. Particular exposure refers to an exposure which is clearly more frequent or more intensive than people experience in general day to day life. The factors (e.g. harassment or violence) may be due to either other people working in the same workplace or clients etc. not working but visiting the workplace. The question concerns exposure only to the mentioned factors and in case there is a particular exposure to several of these the respondent should indicate which of these factors he/she considers as the main factor from the point of view of adverse effects on his/her mental well-being. The following definitions apply to the exposures mentioned:

- Harassment and bullying refer to intentional use of power against another person or group that can result in harm to physical, mental, spiritual, moral or social development (a term psychological violence is also sometimes used and is included in this category).
- Violence refers to physical force against another person or group that results in physical, sexual or psychological harm. Both real experiences of such actions and a feeling of the threat of such actions are covered.
- Time pressure and overload or work refer to demands concerning either the time during which the work needs to be executed or demands concerning the amount of work to be executed and these demands going beyond the abilities and resources of the person.

3.2.3.2 Physical well-being

The aim is to know whether the respondent considers that he/she has at workplace particular exposures to any of the mentioned factors that can adversely affect his/her physical health.

The exposure and the physical health are considered from the point of view of the worker him/herself. Workplace refers to the usual geographical environment of work, usually it is the local unit or establishment where the respondent carries out his/her work activities, but for certain workers (e.g. forestry workers, firemen) it is taken as the general environment where the work is usually carried out. Exposure refers to handling, touching, inhaling etc. of agents (chemicals, dusts, fumes etc.) or existence of other types of factors (work postures, movements, vibrations, noise, risk of accidents etc.) that may adversely affect the physical health of the workers. Particular exposure refers to an exposure which is clearly more frequent or more intensive than what people experience in general day to day life. Physical health refers to all other aspects of health than mental health. The question concerns exposure only to the mentioned factors and in case there is a particular exposure to several of these the respondent should indicate which of these factors he/she considers as the main factor from the point of view of adverse effects on his/her physical health.

3.2.4 Consequences

3.2.4.1 Absence from work as a result of accidents

This variable defines the number of days lost due to the accident for those cases where the victim either has started work or has already recovered from the accidental injury. The aim is to know the number of calendar days during which the victim was unfit to work because of the accident.

All days when the person was unfit for work from the day of the accident until the resumption of work have to be taken into consideration (normal working days or not, including Sundays, bank holidays, etc.). Only days lost strictly related to the inability to work resulting from the accidental injury have to be counted.
When calculating the days for those who have already returned to work, days when the person was able to work but did not do it due to other reasons should not be taken into consideration (even if the reason is somehow linked with the accident). For example if the person was unfit to work during 2 months due to the accident, but was made redundant due to the physical consequences of this accident, and found a new job only 8 months after the accident, the answer is "from one month but before three months after the accident" (2 months).
If the person didn't work for a certain period of time and then started to be integrated back to work gradually, for example working part-time, only the days when he/she was not working at all are counted.

3.2.4.2 Consequences of work-related health problems

The aim is to know to what extent the most serious complaint caused or made worse by work limits the person's ability to carry out normal day to day activities. The complaint refers to the most serious complaint caused or made worse by work, while the limitation in day to day activities covers also day to day activities outside work. E.g. if a skin problem caused or made worse by work considerably limits the person's day to day activities at home, it should be coded as Yes, considerably.

3.2.4.3 Absence from work as a result of work-related health problems

The aim is to know the number of calendar days during which the victim was unfit to work due to the most serious complaint related to work. This concerns the number of days of work lost due to the most serious complaint related to work. All days in between the onset of the complaint and the resumption of work are taken into consideration (normal working days or not, including Sundays, bank holidays, etc.).
The variable only covers the days lost strictly related to the complaint. In particular, if there is more than one complaint, only the days lost due to the most serious one are taken into consideration. In the same way, all the other absences from work during the last 12 months, in particular due to any illness not related to work, or to an accident at work, or to any other type of accidents (home and leisure accidents or road traffic accidents not in the course of work), have to be excluded. Only the absence during the 12 months period prior to the date of the interview is considered.

3.3 Description of the variables used from the core LFS

Table 3.2 displays the socio-demographic and labour market variables in the Labour Force Survey, we used in our analyses. For an explanation of codes and classifications see Annex B.

Table 3.2. Socio-demographic and labour market variables in the Labour Force Survey

Variable	Categories
Demographic background	
Sex	1 digit, 2 categories
Age	2 digits, single years
Country	ISO country classification
Civil status	1 digit, 4 categories
Educational level	ISCED
Employment characteristics (main job)	
Professional status	1 digit, 4 categories
Economic activity of the local unit	NACE Rev. 1.1
Occupation	ISCO-88(COM)
Number of persons working at the local unit	2 digits, 16 categories
Time since starting current employment	3 digits, number of months
Full-time/Part-time distinction	1 digit, 3 categories
Permanency of the job	1 digit, 3 categories
Atypical work	
Shift work	1 digit, 3 categories
Evening work	1 digit, 4 categories
Night work	1 digit, 4 categories
Saturday work	1 digit, 4 categories
Sunday work	1 digit, 4 categories
Hours worked	
Number of hours per week usually worked	2 digits, number of hours usually worked in the first job

4 Quality assessment

4.1 Evaluation of interview techniques

4.1.1 Target population and sample size

The target population for the ad hoc module consists of persons aged 15 or more. Three countries only selected persons aged 16 or more (ES, UK and HR) and five countries did not select persons over 74 years of age (DK, LV, HU, SE, NO). No information on the age of the target population was available from MT and SI.

For the three parts of the module different target populations were defined. For accidents at work a selection was made of respondents who:

- did any work for pay or profit during the reference week, or was not working but had a job or business from which he/she was absent during the reference week; or
- did not work during the reference week, but had already been in employment, last job was less than 12 months ago.

For work-related health problems the selection was respondents who:

- did any work for pay or profit during the reference week, or was not working but had a job or business from which he/she was absent during the reference week; or
- did not work during the reference week but had already been in employment.

Finally, for the questions on harmful exposure respondents were questioned that:

- did any work for pay or profit during the reference week, or were not working but had a job or business from which he/she was absent during the reference week.

Some countries reported difficulties with the filtering of respondents for the various questions. We checked in the data if all persons belonging to the target population were questioned and if persons not belonging to the target population were filtered out. We concluded that the application of the filters was carried out correctly[5]. The sample sizes after subtraction of the non-response are shown in Table 4.1.

[5] MT only assessed the LFS ad hoc module 2007 in persons that worked during the reference week or worked during the past 12 months. MT therefore imputed the missing data. It is unclear how the imputation may have influenced the resulting data.

Table 4.1 Sample size (unweighted and weighted) in thousands for the different parts of the module after subtraction of the non-response

	Accidents		Health problems		Physical exposure		Mental exposure	
	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted
EU-15	447	172929	469	211166	394	157041	346	157154
EU27	583	217835	654	269233	540	197656	492	197804
BE	12	4528	15	5722	11	4277	11	4277
BG	14	3252	18	4173	12	2960	12	2971
CZ	23	5173	28	6317	21	4853	21	4850
DK	16	2929	19	3387	15	2770	15	2769
DE	27	32680	35	41762	25	29880	25	29694
EE	12	660	14	778	11	631	11	631
IE	39	2087	46	2434	37	1993	37	1985
EL	29	4519	34	5333	27	4281	27	4302
ES	48	22796	59	27628	42	19856	42	19781
FR	19	25750	25	32844	18	24536	18	24536
IT	65	24327	85	30928	59	22216	59	22372
CY	5	387	5	447	4	368	4	368
LV	2	1137	3	1351	2	1036	2	1063
LT	8	1605	10	1912	8	1517	8	1517
LU	9	214	12	270	8	204	8	204
HU	30	4181	43	5691	28	3905	28	3905
MT	3	166	4	236	3	157	3	157
NL	45	8514	54	10177	44	8304	44	8304
AT	13	4222	16	5132	12	3932	12	3960
PL	20	15700	28	21441	19	14702	19	14702
PT	19	5108	13	3538	10	2616	10	2628
RO	26	9369	33	11321	25	8959	25	8959
SI	9	998	11	1220	8	963	8	963
SK	12	2428	16	3179	11	2329	11	2329
FI	16	2835	19	3310	14	2428	14	2442
SE	37	5173	39	5817	34	4231	35	4259
UK	52	27247	63	32884	49	25518	49	25641
HR	4	1589	6	2185	4	1546	4	1546
NO	13	2471	15	2674	13	2328	13	2335

4.1.2 Mode of administration

Of the 29 countries 16 administered the questionnaire by computer assisted interviewing, 2 used it in a part of the interviews and 8 countries used paper and pencil. From 3 countries information in the type of administration of the questionnaire was not available. Of the 29 countries 8 only interviewed face to face, 4 interviewed only by phone and 13 countries used a combination of methods. From 4 countries information on the interview technique was not available.

The regulations regarding the LFS administration allow that someone else from the household answers to the survey questions on behalf of the respondent targeted (answering by proxy). From the data it can be concluded that almost all countries used proxies in the LFS, except Norway and Sweden. In 29.6% of the persons for which data were available on the ad hoc module, a proxy anwered the core LFS, and hence,

most likely also the ad hoc module. In BE and AT, proxies were allowed to answer the core LFS, but not the ad hoc module. As a consequence, the overall percentage of proxies in the LFS ad hoc module will be slightly lower. Furthermore, proxies were allowed in Portugal, but they were not allowed to answer questions on health problems and exposure. Table 4.2 shows that the use of proxies differed strongly between countries.

Table 4.2 Mode of administration of the LFS ad hoc module 2007 and use of proxies by country

Country	Computer assistance	Face to face or by telephone	Percentage of proxies in LFS[a]	Proxies in ad hoc module
BE	Partly	Both	16,2%	No
BG	No	Face to face	38,8%	Yes
CZ	Partly	Face to face mostly	42,0%	Yes
DK	Yes	Both	1,9%	Yes[3]
DE	Yes	Face to face, telephone if person not available	22,8%	Yes
EE	Yes	Face to face	23,5%	Yes
IE	[1]	[1]	46,4%	Yes
EL	No	Face to face	39,8%	Yes
ES	Yes	Both	54,0%	Yes
FR	Yes	Face to face	14,2%	Yes[3]
IT	Yes	Both[2]	17,0%	Yes
CY	Yes	Both, 5 out of 6 by telephone	29,2%	Yes
LV	Yes	Both	34,2%	Yes
LT	No	Face to face	44,6%	Yes
LU	Yes[2]	Telephone[2]	51,7%	Yes
HU	No	Both	44,2%	Yes
MT	No	Both	48,9%	Yes
NL	Yes	Face to Face	35,0%	Yes
AT	Yes	Face to face, telephone if person not available	10,0%	No
PL	No	[1]	33,6%	Yes
PT	Yes	Face to face	42,2%	Yes
RO	No	Face to face	26,2%	Yes
SI	[1]	[1]	57,8%	Yes
SK	No	Both	59,0%	Yes
FI	Yes	Telephone	4,0%	Yes
SE	Yes	Telephone	0,0%	No
UK	Yes	Both	34,4%	Yes
HR	[1]	[1]	40,0%	Yes
NO	Yes	Telephone	0,0%	No

[a] The percentages refer to the percentage of persons included in the LFS ad hoc module, for which proxies answered the questions of the core LFS, and hence, most likely also the ad hoc module (except for BE and AT)

[1] Information not available (yet)

[2] Personal correspondences

[3] Only in rare, exceptional cases

4.1.3 Conclusions

In order to select a target population comparable between countries the age range for further analyses is limited to 15-64.

The administration of the questionnaire differs between countries. More personal interview procedures might result in high quality answers as a result of the interaction between interviewer and respondent. However, personal interviewing is also known to lead to more social acceptable answers. The overall effects are unknown.

The use of proxies was high. In some countries more answers were given by proxies than by direct participation. This might lead to biased results. Respondents for which another person responds to the questionnaire may differ from respondents that answer the questions themselves. Proxies may be less aware of accidents, work-related health problems and exposures and report these less often than direct participants. Finally, if respondents are obliged to participate, this might lead to biased results, as respondents might be inclined to give incorrect answers. It is unclear which direction this bias might have. In order to investigate the effects of answering by proxy, the outcome differences between proxy respondents and direct respondents is analysed (see chapters 5-7).

4.2 Wording evaluation

4.2.1 Introduction

The 29 countries that administered the LFS 2007 ad hoc module prepared 32 different questionnaires, based on the English language proposal prepared by Eurostat[6]. In Table 4.3 an overview is given of the number of questions posed in the ad hoc module. It can be concluded that there is a considerable difference between countries in the number of questions asked in the ad hoc module. Several countries use 11 questions, while FR uses 83 questions. The Member States were under no obligation to implement precisely the questionnaire proposed by Eurostat. The ad hoc module may have conflicted with the national survey design or there may have been other reasons for not fully complying with the proposed questions (in English). The resulting differences may influence the comparability of the data between participating countries. Therefore, it is important to evaluate the exact wording of the module questions in all languages in the different countries.

This evaluation not only included differences in wording, but also differences in grammar, concepts, and cultural backgrounds, since these factors may influence the comparability of the results as well. Grammar differences may emerge, because of wording in for instance passive or active sentences. Conceptual differences related to the meaning of occupational accidents and work-related illnesses may occur, because in some countries this may mean bad luck, whereas in other countries this may be interpreted as personal failure or failure of the organisation or relevant others. As a consequence, conceptual differences are related to response tendencies during the conduction of the survey. Cultural differences may be related to the role of for instance economy, religion, or social security.

[6] LFS 2007 ad hoc module on accidents at work and work-related health problems. Doc. ESTAT/F5/HSW//2006/1277.

4.2.2 *Method*

The first activity was the careful *documentation* of the wording of the ad hoc module questions in all countries/languages to the extent possible. We started the analysis from the basic documents, such as the questionnaires in national languages, the English translations of the national questionnaires and comments relating to this issue from the quality reports.

The second activity was the *evaluation* of the deviations between the wording per question and per language. For the evaluation, three sources of information were used. First, the information on differences described by the participating countries in quality reports and final reports on the LFS ad hoc module 2007 was assessed. Second, an evaluation questionnaire comparing the national questionnaires with the version proposed by Eurostat was prepared. As a third step in the evaluation, we compared the English translation of the questionnaire provided by the participating countries with the questionnaire proposed by Eurostat.

Table 4.3 Number of questions used for the ad hoc module

	Number of questions used			
Country	Accidents at work	Work-related health problems	Harmful exposure	Total
BE	4	5	2	11
BG	6	11	9	26
CZ	4	5	2	11
DK	5	6	2	13
DE	6	6	2	12
EE	6	10	4	20
EL	7	8	9	20
ES	8	9	9	26
FR	10	60	13	83
IE	8	11	4	23
IT	6	8	9	23
CY	5	9	9	23
LV	6	6	9	21
LT	5	7	2	14
LU	4	5	2	11
HU	5	7	2	14
MT	5	6	2	18
NL	6	9	11	26
AT	5	9	4	18
PL	6	7	4	17
PT	5	6	9	20
RO	6	10	4	20
SI	9	11	7	27
SK	8	10	2	20
FI	12	13	9	34
SE	7	9	4	20
UK	6	8	4	18
HR	6	8	9	23
NO	10	13	4	27

In total 32 different evaluation questionnaires were developed to assess the questions of the LFS ad hoc module 2007 (see Annex D). We looked in particular at possible influences on the resulting data and possible limitations related to comparability. The questionnaire assessed whether differences existed, and how these differences might have influenced the resulting data. One evaluation questionnaire was used per language. The questionnaire was filled out by foreign language employees at TNO (9 questionnaires) or professional contacts in international research networks like PEROSH, EWCO and EuroOSHnet (23 questionnaires). All evaluators were expert in occupational health and safety or in social sciences. They were fluent in both English and in the language under evaluation.
For all differences in wording, grammar, conceptual differences, and cultural differences, we evaluated the direction in which these differences might have influenced the resulting data, and the degree in which the differences might have influenced the data. The two variables on the job performed during the (most recent) accident (c213) and the job that caused or made worse the (most serious) illness (c220) were not evaluated.

4.2.3 Results

In the following, we present a summary of the results of the wording evaluation for every variable separately. An extensive description of all results per variable is given in Annex E. We would like to stress that the findings are only based on, and limited to, the sources described above (4.2.2). We have no information on clarifications made during the interview or information from other sources.

The results of the wording evaluation are summarized in Table 4.4. In this table, three categories are distinguished to indicate cross country differences in wording, grammar, conceptual differences, or cultural differences:

- +: No differences in wording, conceptual differences, or cultural differences were found, or differences found are not expected to influence the resulting data;
- ±: Minor wording, conceptual, or cultural differences were identified, and these differences might influence the resulting data and might hamper comparability among countries;
- --: Major wording, conceptual, or cultural differences were identified, and these differences will probably influence the resulting data and hamper comparability among countries.

C209: **Accidental injury(ies), apart from illnesses, occurred during the past 12 months, at work or in the course of work.** (also see Annex E)

1. ‘Accidental injury’

Differences were found for the wording of ‘accidental injury’, or an accident resulting in injury. Most often the word injury was not used explicitly, which might have led to reporting of accidents without injury, i.e. over reporting (DE, ES, MT, NL, PL, RO, and SE). HU asked for ‘accident or injury’, because it is difficult to translate accident by one word in Hungarian, and smaller accidental injuries may otherwise not have been included. It is unclear how this wording difference may have influenced the findings. FR used ‘accident resulting in treatment’, which might have led to underreporting. In CZ only the word ‘injury’ was used, possibly leading to confusion with illnesses. PT explicitly referred to mental health injuries. Finally, some countries reported problems with the wording and interpretation of the difference between accidents and illnesses (EE, PT).

2. ‘At work or in the course of work’

Some differences were found for the wording of ‘at work or in the course of work’. In AT, the question stressed to exclude road traffic accidents, which might have led to underreporting since road traffic accidents in the course of work had to be included. NO uses the phrase ‘in relation to your work’ which might have led to over reporting. RO specified work as first or secondary activity.

3. ‘During the past 12 months’

For CZ, the wording of the reference period might have been slightly unclear, and CY reported that respondents had difficulties with recalling the 12-month period.

4. Cultural differences

Some countries described that it seemed likely that respondents did not report accidents, which might have resulted in underreporting (BG, LV). In HR, the law includes commuting accidents in their definition of accidents at work, which might have resulted in over reporting.

5. Conclusion

Minor differences in the wording of c209 exist between Member States, especially in relation to the wording of ‘accidental injury’.

Table 4.4 Results of the wording evaluation of the ad hoc module 2007

	Differences in wording, grammar, conceptual differences and cultural differences								
	Accidents at work			Work-related health problems				Harmful exposure	
Country	C209	C210	C211/ 212	C214	C215/ 216	C217	C218/ 219	C221	C222
BE	+	+	±	±	±	±	±	+	+
BG	±	+	±	+	+	+	±	±	+
CZ	±	+	±	±	±	+	±	±	±
DK	+	+	±	+	+	±	±	+	+
DE	±	+	±	±	±	±	±	±	±
EE	±	+	±	±	±	±	±	±	±
EL	+	±	+	±	+	+	±	±	±
ES	±	+	±	+	+	+	±	±	±
FR	±	±	±	--	--	--	--	±	±
IE	+	+	--	±	±	±	±	+	+
IT	+	±	±	±	±	±	±	±	±
CY	±	+	+	+	+	+	+	±	+
LV	±	+	±	+	±	+	±	±	+
LT	+	+	±	±	+	+	+	+	+
LU	+	±	+	+	+	+	±	+	+
HU	±	+	+	±	±	±	±	±	±
MT	±	±	±	+	+	+	±	--	--
NL	±	+	±	+	±	±	±	±	±
AT	±	+	±	+	±	+	+	±	±
PL	±	+	±	±	+	+	+	±	±
PT	±	+	±	±	±	+	±	±	±
RO	±	±	±	±	±	±	±	±	±
SI	+	+	±	±	±	+	+	--	--
SK	+	+	±	±	±	±	±	±	+
FI	+	+	±	+	±	±	±	±	±
SE	±	+	±	±	+	+	±	±	±
UK	+	+	±	+	+	+	±	±	±
HR	±	+	±	+	+	±	±	+	+
NO	±	+	±	±	±	±	±	+	±

+: No differences in wording, conceptual differences, or cultural differences were found, or these differences are not expected to influence the resulting data

±: Minor wording, conceptual, or cultural differences were identified, and these differences might influence the resulting data and might hamper comparability among countries

--: Major wording, conceptual, or cultural differences were identified, and these differences will probably influence the resulting data and hamper comparability among countries

C210: **Type of most recent accidental injury at work or in the course of work**. (also see Annex E)

1. 'Type of most recent accidental injury'

Some minor differences were found, such as the answer categories being included in the question itself (FR, MT), and a description of the injury rather than the cause being asked (LU, RO). In GR, the difference between the answer categories (road traffic accident versus other potential causes) might have been slightly unclear. In some countries commuting accidents may have been reported although they are not included in the Eurostat definition.

2. 'At work or in the course of work'

GR and IT noted that it was difficult for respondent to distinguish accidents during travelling from and to home from accidents in the course of work.

3. Conclusion

Minor differences in the wording of c210 exist between Member States.

C211/212: **Date when the person was able to start work again after the most recent accidental injury**. (also see Annex E)

1. 'Able to start work again'

Differences were found for the wording of 'able to start work again'. Instead of 'able to start work again', countries asked for '(days of) absence' (IT, MT, RO, FI, NO), 'time unavailable to work' (PT), 'time off/time unable to work' (SI), 'days needed to recover' (CZ), 'start work again' (AT), and 'return to work' (LT). It is not clear whether assessing time off work instead of 'able to start work again' might have influenced the resulting data. 'Days needed to recover' might have led to an overestimation.

2. Date

Many countries did not explicitly state in the question that calendar days had to be counted (BE, CZ, DK, DE, EE, ES, FR, IT, LV, PL, PT, SK, SE, UK, NO, HR). This may have led to an underestimation, since respondents may have counted working days. Several of these countries did include a clear reference to calendar days in the written manual for the interviewers (e.g. ES, LV). In addition, other countries included an instruction next to the question which stressed that calendar days had to be counted (IE, HU, MT, NL, LU). Some countries assessing 'days off work' did not stress the day of the accident should not be included (IT, MT, SI, NO), which might have resulted in an overestimation. In RO, it might have been unclear how days of absence had to be counted.

3. Answer categories

The Member States NL and SK reported that the answer categories were very detailed, and the question may be difficult to answer due to memory effects. Hence, the accuracy of the level of detail may be doubtful. IE noted that it was confusing to both interviewers and respondents that c211/212 and c218/219 were calculated differently.

Second, some countries did not use the answer categories proposed by Eurostat, but used open-ended questions to assess the number of days, weeks, or months off work (BG, IE, MT and UK). The influence on the resulting data is not clear.

Third, some countries used (slightly) different answer categories (IE, SI, PT). As a consequence, SI and PT underestimated the number of persons with answer categories

’04-from the second but before the fifth day after the accident’ and ’05-from the fifth day but before two weeks after the accident’, whereas IE overestimated the number of persons with category ‘ 04’ and underestimated ‘05’. Besides, IE did not distinguish between ’02- no time off or the same day as the accident’ and ’03-the day after the accident’.

4. Conclusion

Minor differences in the wording of c211/212 exist between Member States. Several countries did not emphasize calendar days had to be counted, and a few countries used slightly different answer categories. Most importantly, IE did not distinguish between ‘no time off or the same day as the accident’ and ’the day after the accident’. This is considered as a major wording difference because it prevents a distinction between accidents with and without absence from work. In addition, Member States noted that the accuracy of the level of detail in the answer categories may be doubtful.

C214. Illness(es), disabilities or other physical or psychic health problem(s), apart from accidental injuries, suffered by the person during the past 12 months (from the date of the interview) and that was (were), caused or made worse by work. (also Annex E)

1. ‘Illness(es), disabilities or other physical or psychic health problem(s)’

Some countries did not ask for ‘illness(es), disabilities or other physical or psychic health problem(s)’, but for ‘health problems/complaints’ (DE, RO, SK, HU). Others did not explicitly include mental problems (BE-German, NL), or asked for ‘other health problems’ instead of ‘other physical and mental problems’ (EE, IE). The lack of an explicit reference to mental health problems may result in an underestimation of the number of illnesses. Besides, answers to the next questions (c215/216, c217, c218/19) may not reflect the most serious complaint.

Second, LT and SI did not explicitly include in the question or accompanying instruction that accidental injuries should not be included. This is considered necessary if the previous questions referred to accidental injuries, and the lack of this statement in LT and SI might have resulted in an overestimation.

Third, countries reported that some respondents experienced difficulties distinguishing between accidents at work and work-related health problems (EE, PT, SK), or between health problems due to work and health problems due to age (PL, SK).

2. ‘Caused or made worse by work’

In several countries, the question did not explicitly refer to the fact that both the current job or work done in the past had to be included, which may have underestimated the number of complaints (BE, CZ, DE, LT, PT, SE, NO). LT only asked for illnesses caused by work, instead of caused or made worse by work, which also might have led to an underestimation. SI asked for “work-related” illnesses.

3. Construction of the question

Three countries did not ask for the number of illnesses (as suggested by Eurostat), but immediately asked to specify the illness(es) by means of the answer categories that Eurostat proposed for c215/216 (EE, GR, HU). It is unclear how this might have influenced the results.

The construction of the question in FR differed very much from all other countries. In total 20 different health problems were described one by one, including examples. For each health problem, respondents were asked to indicate whether or not they had the

illness. Subsequently, the respondents were asked whether one or more of these illnesses were caused or made worse by work. These in-depth questions may have resulted in a higher number of respondents reporting one, and two or more illnesses than in the other countries due to the recognition effect (instead of the recollection of illnesses that is required in the other countries).

4. Conclusion

Differences in the wording of c211/212 exist between Member States. In total, 8 countries did not explicitly refer to mental health problems, which was classified as a minor wording difference. Furthermore, the construction of the question in FR differed strongly from the Eurostat proposal, and this was considered to have major consequences on the resulting data.

C215/216. Type of most serious complaint caused or made worse by work. (also see Annex E)

1. 'Most serious complaint'

First, the lack of an explicit reference to mental health problems in c214 in 8 countries (BE- German, DE, EE, IE, HU, NL, RO, SK) might have resulted in another illness than the most serious illness being described in this question. Similarly, the construction of the question in c214 in FR may have a strong influence on the resulting data of this question.

2. 'Caused or made worse by work'

AT asked for illnesses 'caused by work', instead of 'caused or made worse by work', and hence, another illness than the most serious illness might have been reported.

3. Answer categories

Some countries slightly changed the answer categories (CZ, DE, IT, LV, NL, PT, RO, FI), but this did probably not influence the resulting data. However, SI did not include 'anxiety' in the answer category '06-stress, depression, or anxiety', and NO changed, among others, this category into '06-nervousness, anxiety or restlessness, depression, sleep disorders'.

4. Conclusion

It is a concern that mental health problems were not explicitly taken into account in the previous question (c214) in 8 countries, and this may have influenced the resulting data of this question. Besides, the construction of the question in c214 in FR may have resulted in major differences in the resulting data of c215/c216.

C217. Whether the most serious complaint caused or made worse by work limits the ability to carry out normal day to day activities either at work or outside work. (also see Annex E)

1. 'Most serious complaint'

The lack of an explicit reference to mental health problems in c214 in 8 countries (BE-German, DE, EE, IE, HU, NL, RO, SK) might have resulted in different limitations. Similarly, the construction of the question in c214 in FR may have influenced the resulting data of this question.

2. ‘Limit’
NL asks whether persons are hindered in their activities, instead of limited. NO asks for the extent in which person is limited instead of whether a person is limited. Questions of both NL and NO might have resulted in more limitations being reported.

3. ‘Normal day to day activities”
Some countries posed the question more personally by asking for “your” day to day activities instead of “normal” day to day activities (DK, NL, FI, HR).

4. ‘Either at work or outside work’
Some countries used two separate questions to assess limitations, which might have resulted in more limitations being reported (FR, NL, NO). Other countries asked for normal day to day activities without the specification ‘either at work or outside work’ (IT, HU), which might have resulted in an underestimation of the limitations.

5. Conclusion
It is a concern that mental health problems were not explicitly taken into account in the previous question (c214) in 8 countries, and this may have influenced the resulting data of this question. Besides, the construction of the question in c214 in FR may have resulted in major differences in the resulting data of c217.

C218/219. Number of days off work during the last 12 months due to the most serious complaint caused or made worse by work. (also see Annex E)

1. ‘Most serious complaint’
The lack of an explicit reference to mental health problems in c214 in 8 countries (BE-German, DE, EE, IE, HU, NL, RO, SK) might have resulted in a different number of days off than due to the most serious complaint. Similarly, the construction of the question in c214 in FR may have influenced the resulting data of this question.

2. ‘Number of days off’
Many countries did not explicitly state in the question that calendar days had to be counted (BE, CZ, DK, EE, GR, ES, IT, LV, PT, SK, FI, SE, UK, NO, HR). This may have led to an underestimation of the days off work. Several of these countries did include a clear reference to calendar days in the written manual for the interviewers (e.g. ES, LV). Six additional countries (FR, IE, HU, MT, NL, LU) did not explicitly include a statement on calendar days in the question itself, but in the instruction next to the question.
DE asked to count working days, which probably resulted in an underestimation. UK added “(work days)” after the answer categories ‘1 to 3 days’, and ‘4 to 6 days’, which probably resulted in an underestimation of the number of persons with answer category ‘03’ and ‘04’ .
In the Czech version "number of days when a person could not work" does not necessary have to mean that a person had a day off. This might have led to an overestimation.

3. Answer categories
First, several participating countries reported difficulties. NL reported that the answer categories were very detailed. Therefore, questions may be difficult to answer due to memory effects, and the accuracy of the level of detail might be doubtful. PL also reported problems due to the too long recall period. SK noted that persons with several

episodes of days off had difficulties in answering the question. IE stated that the fact that c211/2121 and c218/219 were calculated differently was confusing to both interviewers and respondents.
Second, some countries did not use the answer categories as proposed by Eurostat, but used open-ended questions to assess the number of days, weeks or months off work (BG, DE, IE, MT). The influence on the resulting data is not clear.
Third, IE used answer categories that slightly deviated from the Eurostat proposal. The differences probably will have led to an underestimation of the number of persons with the answer category '04- at least four days but less than two weeks' and an overestimation of '05- at least two weeks but less than one month'. NO also used slightly different answer categories, which may have resulted in an overestimation of the number of persons with answer category '02- less than one day or no time off', and an underestimation of '03- at least one day but less than four days'.

4. Conclusion
Minor differences in the wording of c218/219 exist between Member States. First, several countries did not emphasize calendar days had to be counted, two countries assessed *working* days off, and two countries used slightly different answer categories. Member States also noted that the accuracy of the level of detail of the answer categories may be doubtful. Second, it is a concern that mental health problems were not explicitly taken into account in c214 in 8 countries, and this may have influenced the resulting data of this question. In addition, a major difference in the resulting data of c218/219 may be caused by the construction of the question in c214 in FR.

C221. Whether at the workplace the person has particular exposure to selected factors that can adversely affect his/her mental well-being. (also see Annex E)

1. 'Particular exposure'
Eurostat defined 'particular' exposure as exposure that is clearly more frequent or more intensive than people experience in general daily life. Several countries did not ask for 'particular' exposure, but for the factor most exposed to (CZ, DE, EE, GR, ES, FR, IT, LV, MT, NL, AT, PT, RO, SI, FI, SE, UK). This may have resulted in an overestimation of the persons reporting factors adversely affecting mental well-being.

2. 'Mental well-being'
Some countries did not assess the main factor from the point of view of adverse effects on mental well-being (IT, PL, SI), but assessed the main factor exposed to. This probably resulted in an overestimation. In addition, other countries (FR, NL, UK) first asked for exposure, and subsequently asked which type of exposure had most influence on (mental) health. This construction of the question also may have resulted in an overestimation. Besides, a few countries did not refer to mental well-being, but to mental state (CZ), mental health (EE, LV), or health (FR, NL). It is unclear how this might have influenced the resulting data, but more persons reporting exposure may be expected in FR and NL.

3. Selected factors
CZ asked for 'sexual harassment' instead of harassment, FR for 'verbal aggression and harassment', or 'discrimination', IT for 'harassment and discrimination', and CY for 'psychological pressure' instead of 'harassment or bullying'. By changing the content of this answer category, the resulting data may not be completely comparable to other countries.

Violence or threat of violence was translated as 'physical aggression or violence' in France, and as 'violence, threat of violence and harassment' in CY. Especially for CY, the resulting data might differ from other countries due to the overlap with another answer category, i.e. 'harassment and bullying'.
From the answer category time pressure or overload of work, time pressure was not translated in IT, which might have resulted in underreporting of this factor.
NL and MT did not use two answer categories to assess exposure to factors at work (yes/no), but three answer catergories (no/yes, sometimes/yes, regularly).

4. Main factor
In two countries, a question on which of the factors exposed to was the main factor from the point of view of adverse effects on mental well-being was lacking (MT, SI).

5. Cultural differences
A few countries (BG, HU, MT, PL, SK) described that some respondents did not report the factors they were exposed to, which may have resulted in an underestimation. Cultural differences might have played a role.

6. Conclusion
Differences in the wording of c221 existed between Member States. First, MT and SI did not identify the main factor affecting mental well-being, which was considered as a major wording difference. Several notable minor wording differences were identified too. First, three countries asked for exposure, but not for exposure that adversely affected mental well-being (IT, PL, SI). Three other countries first asked for exposure, and subsequently asked which type of exposure had most influence on (mental) health (FR, NL, UK). FR and NL did not refer to mental well-being, but to the more general 'health'. Second a few countries substantially changed the content of one or more answer categories (CZ, FR, IT, MT, NL, CY). Third, many countries asked for the factor most exposed to, and not for 'particular exposure'.

C222. Whether at the workplace the person has particular exposure to selected factors that can adversely affect his/her physical health. (also see Annex E)

1. Particular exposure
Eurostat defined 'particular' exposure as exposure that is clearly more frequent or more intensive than people experience in general daily life. However, several countries did not ask for 'particular' exposure, but to the factor most exposed to (CZ, DE, EE, GR, FR, MT, NL, AT, PT, RO, SI, FI, SE, UK). This may have resulted in an overestimation of the persons reporting factors adversely affecting physical health.

2. 'Physical health'
Three countries did not assess the main factor from the point of view of adverse effects on physical health (IT, PL, SI), but the main factor exposed to. This probably resulted in an overestimation. Three other countries (FR, NL, UK) first asked for exposure, and subsequently asked which type of exposure had most influence on (physical) health. This construction of the question also may have resulted in an overestimation. GR, FR, and NL asked for 'health' instead of 'physical health', which might have resulted in an overestimation of persons reporting exposure too.

3. Selected factors

NL and AT did not assess exposure to the 'risk of an accident'. In addition to the lack of information on this factor, it might have resulted in more positive answers for other exposures.

EE left out one of the factors explicitly described by Eurostat as a part of an answer category, i.e. 'fumes'. ES translated 'fumes' and 'smoke' by one single word. NL used a more extensive and slightly deviating description of 'noise' and 'handling heavy loads'. The impact of these differences on the resulting data is probably not substantial. FR asked for "breathe in smoke, or dust, steam, gases or chemical products" or "come in contact with other dangerous products" instead of "exposure to chemicals, dusts, fumes, smoke or gases".

In several countries, some risk factors were not grouped as proposed by Eurostat, but presented separately (EE, FR, NL, AT, NO). It is unclear how this might have influenced the resulting data.

NL and MT did not use two answer categories to assess exposure to factors at work (yes/no), but three answer catergories (no/yes, sometimes/yes, regularly).

4. Main factor

In two countries, a question on which of the factors exposed to was the main factor from the point of view of adverse effects on physical health was lacking (MT, SI).

5. Conclusion

Differences in the wording of c222 existed between Member States. First, MT and SI did not identify the main factor affecting physical health, which was considered as a major wording difference. Several notable minor wording differences were also identified. First, three countries asked for exposure, but not for exposure that 'adversely affected physical health' (IT, PL, SI) Three other countries first asked for exposure, and subsequently asked which type of exposure had most influence on (physical) health (FR, NL, UK). Second, GR, FR, and NL did not refer to 'physical' health, but to the more general 'health'. Third, NL and AT did not assess exposure to the risk of an accident. Several other countries also changed the content of one or more answer categories. Finally, many countries asked for the factor most exposed to, and not for 'particular exposure'.

4.2.4 Conclusions

This section aimed to identify differences in the wording of the LFS 2007 ad hoc modules used in 29 countries, and to describe the potential influence of these differences on the resulting data, the EU figure, and the comparability of data between countries. Although minor and some major wording differences were identified, it can be concluded that, in general, most countries followed the specifications prepared by Eurostat in constructing the ad hoc module questionnaire. And even though many minor differences were found (Table 4.4), it must be acknowledged that that most of these differences did probably not influence the EU figures or hamper comparability among countries. The most important findings of the wording evaluation and their implications are listed below.

Accidents at work

It was concluded that some minor differences in the wording of 'accidents resulting in injury' existed. Caution may need to be taken when short term sick leave is studied, because of a lack of emphasize on calendar days in 16 countries, slightly different answer categories in three countries, and the high level of detail of the answer categories in combination with the relatively long recall period. When sick leave is defined as no

sick leave versus at least one day of sick leave, IE cannot be included in the analyses due to a major wording difference.

Work-related health problems
In total 8 out of the 29 participating countries did not explicitly refer to mental problems in the first question on health problems. This may have resulted in an underestimation of the number of health conditions, a different most serious illness, and different consequences with respect to limitations and sickness absence. A major difference in the construction of the first question on work-related health problems in France was found, which probably resulted in more respondents reporting a health problem. It is very likely that this also influenced answers on all subsequent questions.

In line with accidents at work, caution may need to be taken when short term sick leave is studied due to a lack of emphasize on calendar days in 16 countries, the counting of working days in two countries, slightly different answer categories in two countries, and the high level of detail of the answer categories in combination with the relatively long recall period.

Exposure to factors that adversely affect mental well-being or physical health
Two countries did not assess the main factor adversely affecting mental well-being and physical health, and due to this major wording difference, the resulting data of these countries cannot be included in analyses on the type of factors adversely affecting mental well-being or physical health. Besides, three countries asked for exposure, but not for exposure from the point of view of adverse effects on mental well-being and physical health. Three other countries first asked for exposure, and subsequently asked which exposure had most influence on (mental) health or (physical) health. Three countries did not explicitly refer to “mental well-being” or “physical health” but to “health”. Several countries changed the content of one or more answer categories, and two countries did not assess one of the exposures affecting physical health.

4.2.5 Implications

An important implication of the wording evaluation is the identification of data that could not be included in the statistical analysis because of major wording differences that would influence the EU27 figure or hamper comparison among countries. Indeed, based on the wording evaluation, several implications for the statistical analysis of the data were found. First, implications resulting from major wording differences were:

1. IE cannot be included in the analysis of sick leave as a result of an accident at work (c211/212) if sick leave of at least one day is studied (Chapter 5).
2. The data on work-related health problems (c214, c215/216, c217, c218/219) in FR should be considered carefully, and its influence on the EU27 figures should be addressed when these data are presented (Chapter 6).
3. MT and SI cannot be included in statistical analyses on the type of exposure affecting mental well-being (c221) or physical health (c222). MT and SI can be included if exposure versus no exposure is studied (Chapter 7).

The fourth implication for the statistical analysis of the data did not arise from one major wording difference, but from several minor wording differences in combination with comments made by the participating countries:

4. Short-term sick leave, i.e. a few days, due to an accident at work (c211/212) or work-related health problems (c218/219) should not be studied as an outcome measure. However, studying the occurrence of sick leave (at least 1 day vs. no) and long-term sick leave (1 month or less) does not seem to pose a problem.

Minor wording differences ranged from very small differences to notable differences. It is not feasible or necessary that all these differences result in implications for the statistical analysis. However, insight in these minor differences may be helpful in case of unexpected results in the statistical analyses of the data (Chapter 5-7). They may also contribute to further improving the ad hoc module on accidents at work and work-related health problems in future (Chapter 8).

4.3 Non-response analysis

4.3.1 Introduction

A thorough non-response analysis is basic for the correct interpretation of all sample based research. It gives the necessary information for validation and generalization of the results to population values and for comparison between countries. This is of course also a necessary exercise for the interpretation and generalization of the LFS and ad hoc module results. The non-response analysis includes the documentation and analysis of the survey non-response, module non-response and item non-response.

4.3.2 Method

The non-response of the LFS 2007 was calculated and analysed by Member State and for the European Union. Respondents who belonged to the target population of the ad hoc module and did not answer the questions of this module (category='No answer') were defined as non-response. Module non-response was defined separately for the questions on accidents, on work-related health problems and on exposure because the target population differed between these types of questions. The answers on the first questions of the parts of the ad hoc module on accidents and work-related health problems served as reference for the definition of module non-response. For the part on exposure both questions were taken into account. The module non-response was analysed by age, sex and economic activity. Item non-response was defined as the additional non-response on separate items of the module.

4.3.3 Results

4.3.3.1 Survey non-response analysis

Some countries (ES, UK and HR) did not include persons 15 years old in the survey. They are not considered non-response. For the non-response analysis of the core survey we refer to the Quality Report of the Labour Force Survey.

4.3.3.2 Module non-response analysis

Of the target population, 1.5% did not answer the questions of the ad hoc module on accidents at work. For the questions on work-related health problems this percentage was 3.4%, for exposure with regard to mental well-being 2.4% and for exposure with regard to physical health 2.5%. This percentage differs among countries. Table 4.5 shows the module non-response among countries, and Table 4.6 shows the module non-response for different subgroups of respondents.

Table 4.5 Module non-response by country

Country	Accidents	Work-related health problems	Exposure mental well-being	Exposure physical health
EU15	1.9%	4.6%	3.2%	3.3%
EU27	1.5%	3.4%	2.4%	2.5%
BE	.7%	2.6%	.5%	.5%
BG	2.2%	1.9%	3.1%	3.2%
CZ	.1%	.0%	.1%	.0%
DK	.5%	.0%	.1%	.0%
DE	11.2%	10.6%	12.4%	12.1%
EE	.0%	.0%	.0%	.0%
IE	1.6%	10.2%	1.8%	1.6%
EL	1.3%	3.2%	1.3%	1.6%
ES	.2%	.1%	1.1%	.9%
FR	1.7%	-	.5%	.5%
IT	.6%	1.0%	1.0%	1.3%
CY	-	-	-	-
LV	1.0%	.9%	.6%	.6%
LT	.0%	-	-	-
LU	.0%	-	.0%	-
HU	.1%	.2%	.1%	.1%
MT	.4%	-	-	-
NL	.0%	.8%	-	-
AT	.2%	-	.0%	.5%
PL	.8%	1.1%	.7%	.7%
PT	.6%	34.5%	24.0%	24.1%
RO	.0%	-	-	-
SI	.3%	.0%	-	-
SK	.1%	.0%	.0%	.0%
FI	.0%	.2%	.5%	.8%
SE	.0%	.1%	.2%	.7%
UK	5.4%	7.1%	5.2%	5.4%
HR	2.3%	.1%	.4%	.4%
NO	.1%	1.7%	1.9%	2.2%

"-" means 100% response

The high non-response of Portugal could be explained by the use of proxy respondents, while proxies were not allowed to answer questions on health problems and exposure. The high non-response in the United Kingdom was explained in their Quality Report: "The majority (more than 97%) of these blanks are from people who did not respond in this wave, but have responded in previous waves, and so have had their data brought forward from the previous quarter. However, because the ad hoc module questions were not asked in the previous quarter, there is no data to bring forward for these cases, and so they are coded as missing on the ad hoc module questions and derived variables". The relatively high non-response of Germany could be explained by the more voluntary character of the ad hoc module. The comparison between respondents and non-respondents did not show consequences for the interpretation of the results of Germany. In some countries the response was 100% due to the fact that module non-response was not allowed.

In Table 4.6 the module non-response is shown divided by subgroups of respondents. Although the non-response differs among subgroups, no large under representation of subgroups can be concluded. The sector Fishing shows relatively high non-response for health problems and exposure. Because this is a very small sector, the EU27 results will probably not be negatively affected.

Table 4.6 Module non-response by subgroups

	Accidents	Work-related health problems	Exposure mental well-being	Exposure physical health
by sex				
males	1.7%	3.6%	3.0%	3.1%
females	1.3%	3.2%	1.8%	1.9%
by age				
15-24	1.5%	2.5%	2.3%	2.4%
25-34	2.3%	3.8%	3.8%	3.9%
35-44	2.1%	3.6%	3.4%	3.5%
45-54	1.7%	3.4%	3.1%	3.2%
55-64	1.2%	3.1%	1.8%	1.9%
65-74	.3%	3.4%	.4%	.5%
by economic activity				
Agriculture, hunting and forestry	.9%	3.1%	3.5%	3.7%
Fishing	.7%	9.7%	10.7%	10.8%
Mining and quarrying	1.4%	3.0%	3.9%	4.1%
Manufacturing	2.1%	3.5%	4.2%	4.5%
Electricity gas and water supply	1.6%	3.0%	3.8%	4.0%
Construction	2.2%	4.7%	5.8%	5.9%
Wholesale and retail trade, repair	2.3%	3.9%	4.6%	4.7%
Hotels and restaurants	2.4%	4.7%	5.7%	5.7%
Transport storage and communication	2.4%	3.5%	4.3%	4.4%
Financial intermediation	2.8%	3.7%	4.4%	4.4%
Real estate renting business activities	2.8%	3.8%	4.3%	4.4%
Public administration, defense, social security	2.3%	3.6%	4.5%	4.7%
Education	1.7%	2.7%	3.3%	3.4%
Health and social work	2.3%	3.2%	4.1%	4.1%
Other service activities	2.8%	3.7%	4.5%	4.7%
Private households with employed persons	1.8%	5.9%	6.5%	6.9%
Extra-territorial organisations and bodies	1.8%	2.5%	3.0%	3.0%

4.3.3.3 *Item non-response analysis*

For accidents, the non-response on the first question, the occurrence of accidents, was 1.5%. No persons that did not answer the first question, answered the following questions. The additional non-response for the following questions was very low: 0.003%

for the question concerning to road accidents or other accidents, 0.03% for the question concerning sick leave, and 0.008% for the question concerning the job this accident occurred.

For work-related health problems, the non-response on the first question, the occurrence of work-related health problems, was 3.4%. No persons that did not answer the first question, answered the following questions. The additional non-response for the following questions was low: 0.009% for the question concerning the type of work-related health problem, 0.3% for the question concerning limitations due to this health problem, 0.1% for the question concerning sick leave, and 0.2% for the question concerning the job causing this health problem.

4.3.4 Conclusions

In general, the module and item non response are highly satisfactory. The results can be considered representative of the target population.
The high module non-response in Portugal and to a lesser extent in the United Kingdom, could be explained sufficiently. There is no reason to expect this non-response to be differential. Therefore, we consider the results in these countries to be representative. The high non-response is Germany is probably due to the interview procedure, but will have no consequences for the interpretation of the German results. The non-response divided by subgroups showed that no groups were underrepresented in the study population. In the sector Fishing the relatively high non-response on questions regarding health problems and hazardous exposure must be taken into account when interpreting the results for this sector.

However, these conclusions are dependent on the results of the core survey non-response results. Non-response data of the survey as a whole are available per country. There are differences between countries, but response rates between countries are not fully comparable. Data on non-respondents of the survey are limited. Therefore, it is not possible to determine if particular groups are under- or overrepresented. For further details on the survey non-response we refer to the Quality Report of the Labour Force Survey 2007.

5 Results on accidents at work in the past 12 months

In this chapter the results are presented of the statistical analyses of the part of the 2007 ad hoc module of the LFS on accidents at work. Figures refer to persons aged 15 to 64 years, who were working or had been working in the past 12 months. The proposed questionnaire is included in Annex A. For an explanation of the codes and classifications used, we refer to annex B. Methodological notes are given in Annex C.

5.1 Quality assessment

Apart from actual differences, differences between countries could be caused by differences in the wording of the questionnaires or differences in the use of proxies (also see Chapter 4). Not only country differences could be influenced by these factors, but also the overall EU27 figures may be affected. To gain insight in the influence on the overall EU27 figure, countries which showed minor differences in the wording of 'accidents resulting in injury' were compared to all other EU27 countries in univariate analyses. No evidence was found for an underreporting or over reporting in the direction expected on the basis of the wording evaluation. Hence, we are confident that wording differences in 'accidents resulting in injury' did not strongly influence the EU27 figures. Because the wording analysis showed that caution needed to be taken when short term sick leave was addressed, we only studied sick leave of at least one day and sick leave for one month or more.

The use of proxies may have led to biased results, since proxies may represents a specific group of workers. This was not investigated further. Also, proxies may not be aware of accidents at work of another person of the household. Therefore, an underestimation of the accidents percentage may occur. The comparison of the occurrence of accidents between proxies and direct respondents showed that proxies reported accidents less often (2.4% versus 3.1% - unweighted)[7]. This may be an indication of an underestimation of the results presented for countries with a high proportion of proxies and for the EU27 figure in general.

5.2 Occurrence of accidents at work

By means of descriptive analyses the occurrence of accidents and its consequences will be presented by country, by demographic characteristics, and by work characteristics.

5.2.1 Accidents at work in the EU27 and the participating countries

Table 5.1 presents an overview of the results on accidents at work in the past 12 months in the EU27, the EU15, and for every country separately, including Norway and Croatia. Of the respondents in the EU27, 3.2% reported one or more accidents at work in the past 12 months. This percentage corresponds to 6.9 million persons in the EU27. The occurrence of an accident ranged from 0.6% in Bulgaria to 6.3% in Finland (Figure 5.1). In total, 0.4% of all respondents reported two or more accidents, which corresponded to approximately 0.8 million persons.

[7] The analysis was based on data on proxies in the core LFS. In two countries (BE, AT), proxies answered questions of the core LFS, but not of the ad hoc module. As a consequence, the influence of proxies on the resulting data might be underestimated.

Respondents were asked if the most recent accident resulted in sick leave. In the EU27, 2.3% of all respondents reported sick leave for at least one day due to an accident at work. This corresponds to approximately 5.0 million persons. Among those with one or more accidents, 73.4% of the respondents in the EU27 reported sick leave for at least one day. Sick leave ranged from 34.2% in Sweden to 94.2% in CZ (Table 5.1, Figure 5.2).

Sick leave for one month or more due to an accident at work was reported by 0.7% of all respondents in the EU27, corresponding to 1.5 million persons in the EU27. Among those reporting one or more accidents in the EU27, sick leave for one month or more was reported by 22.0%. This ranged from 8.6% in Sweden to 56.2% in Poland (Table 5.1, Figure 5.3).

Table 5.1 Accidents at work in the past 12 months in the EU27, EU15, and participating countries including HR and NO

	Accident(s) at work	Sick leave > 1 day*	Sick leave > 1 month	Road accidents
	%	% of accidents	% of accidents	% of accidents
EU27	3.2	73.4*	22.0	9.6
EU15	3.6	72.1*	20.9	9.2
BE	3.2	82.6	31.8	13.3
BG	0.6	(56.8)	u	u
CZ	2.6	94.2	44.4	6.4
DK	4.9	68.6	15.8	(4.6)
DE	2.9	83.2	21.9	17.1
EE	2.3	69.4	21.5	u
IE	1.5	*	24.6	u
EL	1.9	75.6	8.8	17.1
ES	3.9	81.7	28.5	7.6
FR	5.4	65.8	20.0	(3.1)
IT	2.7	85.2	28.6	13.5
CY	3.0	70.7	19.8	(10.7)
LV	2.2	67.8	(26.8)	u
LT	(1.0)	(74.3)	u	u
LU	3.4	80.4	18.0	(12.8)
HU	1.0	85.4	20.1	(9.1)
MT	3.4	73.6	u	u
NL	2.5	61.7	14.8	16.2
AT	5.1	77.8	23.1	6.9
PL	1.1	94.1	56.2	28.5
PT	3.0	86.0	38.0	8.1
RO	2.3	75.4	(5.4)	8.5
SI	3.9	88.0	(33.7)	(12.6)
SK	1.6	80.0	23.9	(8.3)
FI	6.3	59.4	12.1	7.2
SE	5.1	34.2	8.6	8.6
UK	3.2	61.5	11.5	7.7
HR	2.0	(91.2)	(41.5)	(19.9)
NO	3.2	44.8	13.7	3.5

*: IE not included since IE did not distinguish between “no sick leave” and “one day of sick leave”

( ): limited reliability due to small sample size, u: not available or sample size below publication limit.

Road traffic accidents at work were reported by 0.3%, corresponding to 0.67 million persons in the EU27. Road traffic accidents constituted 9.6% of the most recent acci-

dents at work. Among countries, this ranged from 3.5% in Norway to 28.5% in Poland (Figure 5.4).

For every question on accidents at work (c209-c213), the percentage per response category is provided in Annex F (Table A-D).

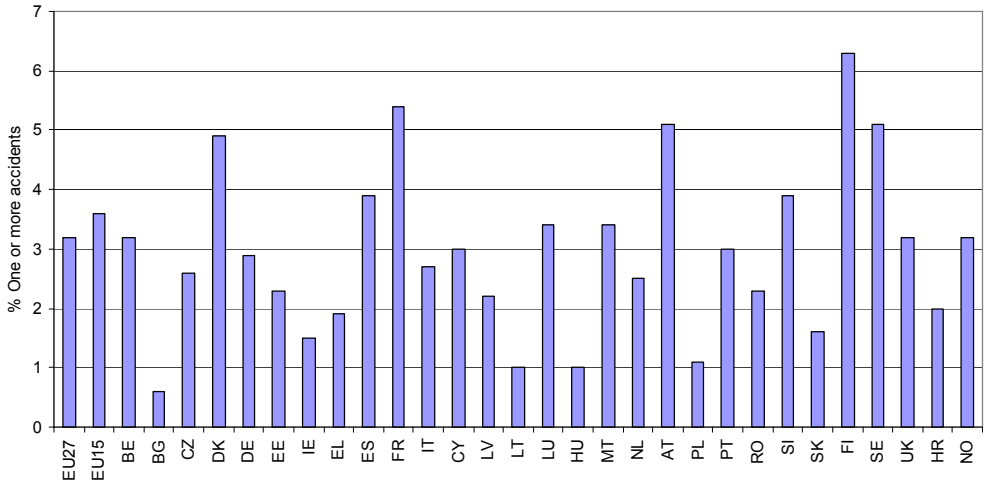

Figure 5.1 Accidents at work in the past 12 months in the EU27, EU15, and participating countries including HR and NO*
% of LT has limited reliability due to small sample size.

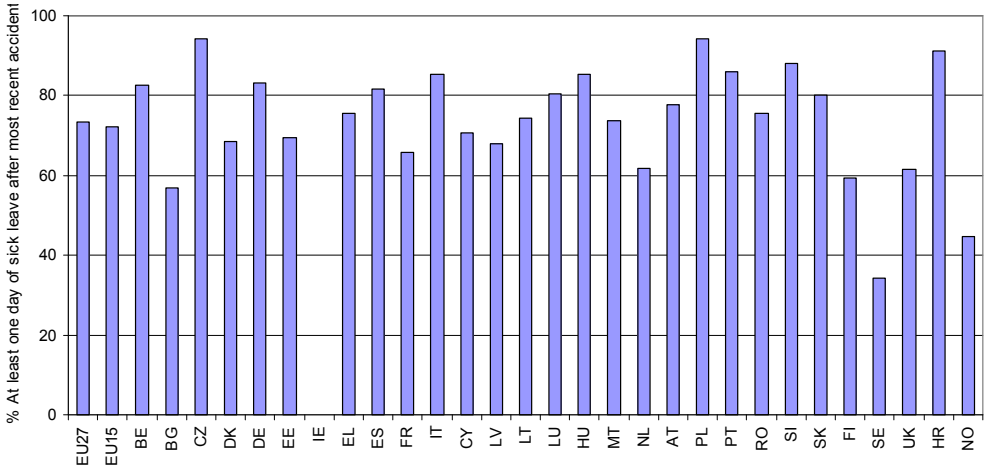

Figure 5.2 Proportion of sick leave for at least one day among persons with accidents in the EU27, EU15, and participating countries including HR and NO*
IE is not included since IE did not distinguish between "no sick leave" and "one day of sick leave", % of BG, LT and HR has limited reliability due to small sample size.

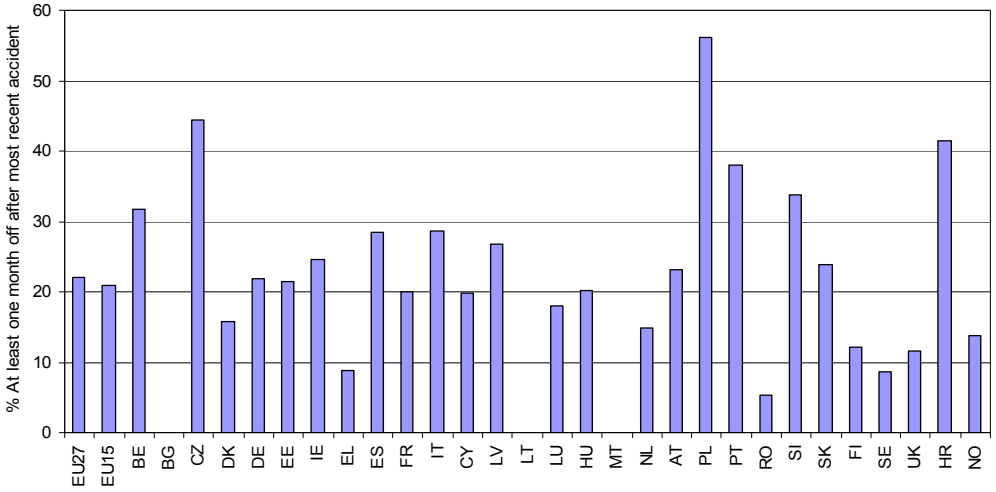

Figure 5.3 Proportion of sick leave for at least one month among persons with accidents in the EU27, EU15, and participating countries including HR and NO*

** % of LV, RO, SI, and HR has limited reliability due to small sample size; sample size of BG, LT and MT is below publication limit*

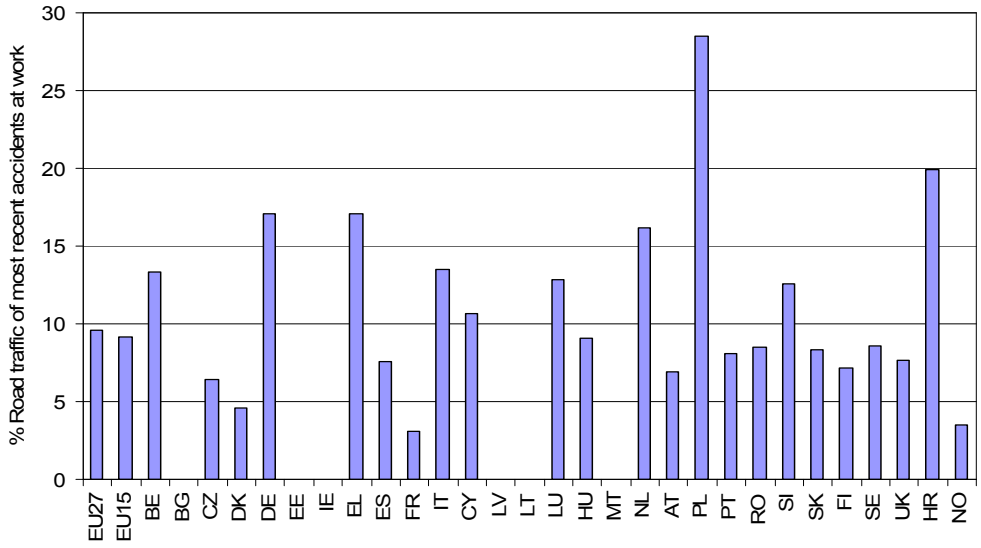

Figure 5.4 Proportion of road traffic accidents among persons with accidents in the EU27, EU15 and the participating countries including HR and NO*

** % of DK, FR, CY, LU, HU, SI, SK and HR has limited reliability due to small sample size; sample size of BG, EE, IE, LV, MT, LT, and MT is below publication limit*

5.2.2 *Accidents at work in the EU27 by demographic characteristics*

Table 5.2 presents the occurrence of accidents at work in the past 12 months in the EU27 by the demographic characteristics age, sex, educational level, and marital status. Men (4.0%) reported more often one or more accidents than women (2.1%), and also reported sick leave more often. Among men, the occurrence of accidents at work decreased with age (Table 5.2, Figure 5.5). In both men and women, sick leave as a result of an accident at work increased with age. Persons with a low educational level more often reported an accident, and these accidents also resulted more often in sick

leave. The proportion of road accidents among the reported accidents was highest in persons with a high level of education, in particular in men. Single persons reported more often accidents than married persons, but these accidents resulted less often in sick leave. In Annex F (Table E), the demographic characteristics of the target population in the EU27 are described in more detail.

Table 5.2 Accidents at work in the past 12 months in the EU27 by demographic characteristics

		Accident(s) at work	Sick leave > 1 day*	Sick leave > 1 month	Road accidents
		%	% of accidents	% of accidents	% of accidents
	EU27	3.2	73.4	22.0	9.6
Sex					
Men		4.0	77.1	23.4	9.9
Women		2.1	64.7	18.5	9.1
Age					
Men	15-24	5.0	76.8	15.6	7.8
	25-34	4.5	75.2	21.9	9.0
	35-44	4.3	77.8	24.5	11.3
	45-54	3.5	77.9	25.5	9.9
	55-64	2.9	79.3	31.7	u
Women	15-24	2.6	57.2	u	u
	25-34	2.1	61.8	13.2	10.5
	35-44	2.0	68.6	19.9	u
	45-54	2.1	65.3	22.8	u
	55-64	2.1	69.5	26.1	u
Total	15-24	3.9	70.8	14.3	7.5
	25-34	3.4	71.6	19.5	9.4
	35-44	3.3	75.2	23.2	10.5
	45-54	2.8	73.6	24.6	9.8
	55-64	2.5	75.8	29.8	10.2
Education					
Men	Low	5.5	82.6	28.0	8.0
	Intermediate	4.3	76.5	22.3	9.7
	High	2.0	64.9	16.2	16.2
Women	Low	2.8	73.5	26.8	5.8
	Intermediate	2.0	66.5	18.1	10.1
	High	1.8	51.0	10.0	11.0
Total	Low	4.3	80.2	27.7	7.4
	Intermediate	3.3	73.7	21.1	9.8
	High	1.9	58.4	13.3	13.7
Marital status					
Men	Married	3.6	79.3	26.3	10.7
	Single	4.6	74.8	20.4	8.9
Women	Married	1.8	68.8	21.8	8.5
	Single	2.5	60.8	15.5	9.6
Total	Married	2.8	76.3	25.0	10.1
	Single	3.7	70.3	18.8	9.1

*: IE not included since IE did not distinguish between “no sick leave” and “one day of sick leave”

( ): limited reliability due to small sample size, u: not available or sample size below publication limit

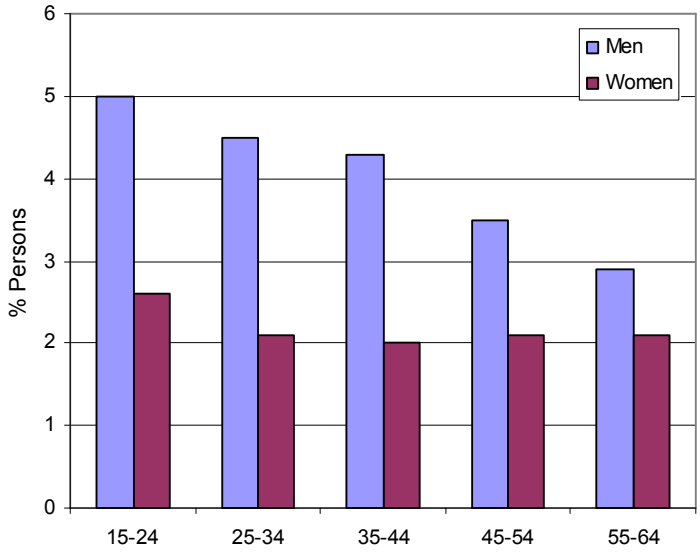

Figure 5.5 Accidents at work in the past 12 months in the EU27 in different age groups

5.2.3 Accidents at work in the EU27 by work characteristics

The target population of the questions of the LFS ad hoc module on accidents at work consisted of persons aged 15 to 64 years, who were working or whose job was not prior to one year before the date of the interview. As a consequence, the target population also included persons currently not working[8]. Less information on work characteristics was available for the latter group. Hence, for persons who were not working during the reference week, work characteristics cannot be described fully in relation to accidents at work. Therefore, they were excluded from further analyses.
In addition, 8.0% of those with an accident at work did not experience this accident in their main current job, but in their second current job, job one year ago, or some other job. As a consequence, full data on work characteristics were also not available for these persons. Therefore, the following analyses were limited to persons classified as "employed", without accidents in another job than their main job. In Annex F (Table E-G), characteristics are presented of the included and excluded groups of the original target population.

Table 5.3 presents the percentage of accidents at work, the proportion of accidents involving sick leave (at least 1 day/more than 1 month) and the proportion of road accidents in relation to work characteristics. Figures refer to persons that did not suffer from an accident in another job than their main job. The selection of the study sample as mentioned above had consequences for the occurrence rate of accidents. The occurrence of accidents and sick leave was different for employed and unemployed persons. Moreover, the exclusion of persons with accidents in other jobs than the main job produced a substantial decrease in the accident rate. Therefore, the percentages presented in Table 5.3 should be considered as an aid to compare subgroups of workers, and should not be considered as the percentage of accidents in these groups.

[8] In this context "currently not working" means did not have a job or business during the reference week. Persons who were absent from work for reasons of sickness absence, holidays, maternity leave etc. were classified as currently working.

Table 5.3 shows that accidents at work were most prominent in the sectors 'Agriculture', 'Manufacturing', and 'Construction' (Figure 5.6), while the proportion of sick leave was also relatively high in these sectors. Women in the sectors 'Health and social work' and 'Hotels and restaurants' reported more often one or more accidents than women working in other sectors. As expected, the proportion of road accidents was highest in the sector 'Transport'.

Skilled manual workers reported most often one or more accidents (Figure 5.7), and manual workers, both skilled and unskilled, reported the highest proportion of sick leave. Workers in relatively large companies and workers with shift work or atypical working hours reported an accident relatively often, whereas workers with part-time jobs and temporary jobs reported relatively few accidents.

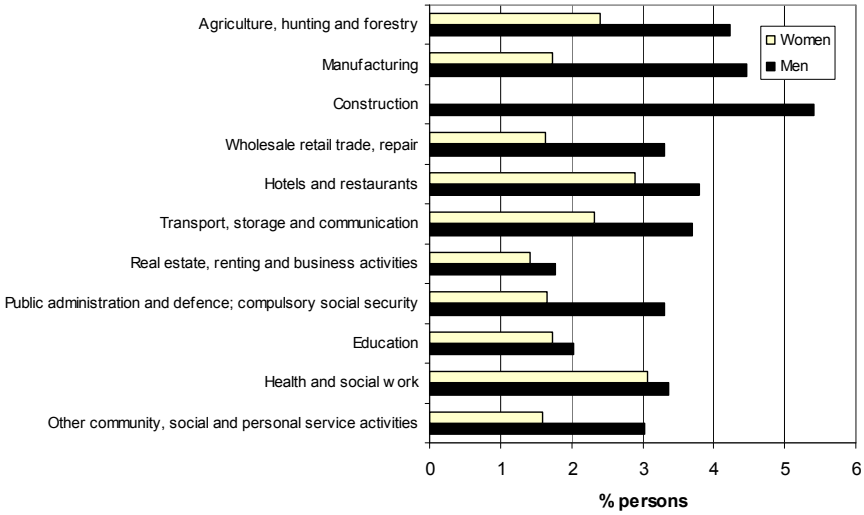

Figure 5.6 Workers reporting one or more accidental injuries at work or in the course of work in the past 12 months in different sectors*

**sample size is below publication limit for Fishing, Mining and quarrying, Electricity gas and water supply, Construction (females), Financial mediation, Private households with employed persons, Extra-territorial organisations and bodies.*

Table 5.3 Accidents at work in the past 12 months in the EU27 by work characteristics, for persons working in the reference week with accidents in their main job

		Accidents at work	Sick leave > 1 day*	Sick leave > 1 month	Road accidents
		%	% of accidents	% of accidents	% of accidents
	EU27	2.9	72.8	20.4	9.6
Professional status					
Men	Self-employed	3.0	73.3	21.4	11.6
	Employee	3.9	76.9	21.8	9.7
	Family worker	u	u	u	u
Women	Self-employed	1.5	64.6	u	u
	Employee	2.0	64.6	17.0	9.0
	Family worker	u	u	u	u
Total	Self-employed	2.5	71.7	21.8	11.2
	Employee	3.0	73.0	20.3	9.5

		Accidents at work	Sick leave > 1 day*	Sick leave > 1 month	Road accidents
		%	% of accidents	% of accidents	% of accidents
	EU27	2.9	72.8	20.4	9.6
	Family worker	1.7	73.6	17.4	5.8
Economic activity					
Men	Agriculture, hunting and forestry	4.2	75.3	21.3	u
	Fishing	u	u	u	u
	Mining and quarrying	u	u	u	u
	Manufacturing	4.5	80.6	21.9	6.7
	Electricity, gas and water supply	u	u	u	u
	Construction	5.4	79.7	22.6	u
	Wholesale retail trade, repair	3.3	73.0	20.9	11.5
	Hotels and restaurants	3.8	61.6	u	u
	Transport, storage and communication	3.7	80.5	26.3	26.0
	Financial intermediation	1.6	u	u	u
	Real estate, renting and business activities	1.8	71.2	u	u
	Public administration and defense	3.3	75.2	25.7	u
	Education	2.0	63.0	u	u
	Health and social work	3.4	63.0	u	u
	Other community activities	3.0	73.4	u	u
	Private households with employed persons	u	u	u	u
	Extra-territorial organizations and bodies	u	u	u	u
Women	Agriculture, hunting and forestry	2.4	74.0	u	u
	Fishing	u	u	u	u
	Mining and quarrying	u	u	u	u
	Manufacturing	1.7	77.0	u	u
	Electricity, gas and water supply	u	u	u	u
	Construction	u	u	u	u
	Wholesale retail trade, repair	1.6	61.5	u	u
	Hotels and restaurants	2.9	63.8	u	u
	Transport, storage and communication	2.3	78.4	u	u
	Financial intermediation	u	u	u	u
	Real estate, renting and business activities	1.4	74.4	u	u
	Public administration and defense	1.7	68.7	u	u
	Education	1.7	58.4	u	u
	Health and social work	3.1	55.7	15.7	u
	Other community activities	1.6	u	u	u
	Private households with employed persons	u	u	u	u
	Extra-territorial organizations and bodies	u	u	u	u
Total	Agriculture, hunting and forestry	3.5	74.9	22.9	u
	Fishing	u	u	u	u
	Mining and quarrying	u	u	u	u
	Manufacturing	3.6	80.0	20.9	6.9
	Electricity, gas and water supply	u	u	u	u
	Construction	5.1	79.6	22.4	u
	Wholesale retail trade, repair	2.5	69.3	19.3	10.0

		Accidents at work	Sick leave > 1 day*	Sick leave > 1 month	Road accidents
		%	% of accidents	% of accidents	% of accidents
	EU27	2.9	72.8	20.4	9.6
	Hotels and restaurants	3.3	62.7	u	u
	Transport, storage and communication	3.3	80.1	25.2	26.1
	Financial intermediation	1.3	66.4	u	u
	Real estate, renting and business activities	1.6	72.5	21.9	u
	Public administration and defense	2.6	73.2	24.4	14.4
	Education	1.8	59.9	u	u
	Health and social work	3.1	57.4	16.0	u
	Other community activities	2.3	69.2	u	u
	Private households with employed persons	u	u	u	u
	Extra-territorial organizations and bodies	u	u	u	u
Occupation					
Men	Highly skilled, non-manual	1.7	66.2	17.1	17.5
	Low skilled, non-manual	3.2	71.9	21.8	13.0
	Highly skilled, manual	5.7	79.7	21.5	4.9
	Low skilled, manual	4.8	79.3	24.9	11.9
	Army	u	u	u	u
Women	Highly skilled, non-manual	1.5	53.7	11.9	13.4
	Low skilled, non-manual	2.0	65.2	16.8	7.9
	Highly skilled, manual	2.6	76.2	u	u
	Low skilled, manual	2.7	75.5	24.7	u
	Army	u	u	u	u
Total	Highly skilled, non-manual	1.6	60.5	14.7	15.7
	Low skilled, non-manual	2.4	67.9	18.8	10.0
	Highly skilled, manual	5.2	79.4	21.6	4.8
	Low skilled, manual	4.1	78.4	24.8	10.6
	Army	u	u	u	u
Size of firm					
Men	More than 10 persons	3.8	77.6	22.1	10.1
	10 persons or less	3.8	74.1	21.6	8.3
Women	More than 10 persons	2.2	64.1	17.1	9.7
	10 persons or less	1.5	66.7	16.7	u
Total	More than 10 persons	3.1	73.3	20.5	10.0
	10 persons or less	2.6	72.0	20.2	7.9
Time since started to work					
Men	<12 months	2.9	75.0	17.9	u
	12 to 23 months	4.3	72.6	20.5	u
	24 to 60 months	4.3	76.4	20.1	10.3
	60 months or more	3.6	77.4	23.2	10.0
Women	<12 months	1.4	55.7	u	u
	12 to 23 months	2.5	63.4	u	u
	24 to 60 months	2.2	67.3	u	u
	60 months or more	2.0	65.9	20.5	9.2
Total	<12 months	2.2	69.1	15.5	9.3
	12 to 23 months	3.5	69.6	18.2	8.8
	24 to 60 months	3.4	73.7	18.6	10.1
	60 months or more	2.9	74.0	22.4	9.7

		Accidents at work	Sick leave > 1 day*	Sick leave > 1 month	Road accidents
		%	% of accidents	% of accidents	% of accidents
	EU27	2.9	72.8	20.4	9.6
Fulltime and part-time employment					
Men	Fulltime	3.8	76.7	22.0	9.9
	Part-time	2.2	70.0	u	10.1
Women	Fulltime	2.0	66.0	17.8	9.5
	Part-time	1.8	61.2	16.4	7.7
Total	Fulltime	3.1	74.0	20.9	9.8
	Part-time	1.9	63.4	16.6	8.3
Hours of work per week					
Men	1-24	2.1	69.5	u	u
	25-39	4.5	76.5	20.6	6.9
	40	3.4	80.7	23.7	10.6
	>40	3.8	71.2	21.1	12.0
Women	1-24	1.4	61.7	u	u
	25-39	2.6	62.3	17.6	7.7
	40	1.5	72.0	18.6	12.2
	>40	2.4	61.7	u	u
Total	1-24	1.6	63.9	17.2	u
	25-39	3.5	70.8	19.4	7.2
	40	2.7	78.9	22.6	11.0
	>40	3.4	69.5	20.1	11.5
Permanency of the job					
Men	Permanent	3.9	77.1	22.3	9.9
	Temporary	3.8	75.5	18.8	u
Women	Permanent	2.1	64.8	17.8	9.1
	Temporary	1.7	62.8	11.9	u
Total	Permanent	3.1	73.2	20.9	9.7
	Temporary	2.7	71.5	16.7	8.0
Shift work					
Men	Never shift work	3.8	78.3	23.0	9.9
	Shift work	4.7	79.9	23.1	10.0
Women	Never shift work	1.7	65.9	19.4	10.3
	Shift work	3.2	67.1	15.3	7.7
Total	Never shift work	2.8	74.7	22.0	10.0
	Shift work	4.1	75.6	20.5	9.2
Atypical working hours (evening, night, weekend)					
Men	Never atypical	3.5	80.0	24.7	8.1
	Sometimes atypical	3.4	79.5	23.9	11.1
	Usually atypical	4.2	74.8	20.9	11.4
Women	Never atypical	1.3	68.9	24.1	11.6
	Sometimes atypical	1.9	62.5	u	u
	Usually atypical	2.8	66.4	16.7	7.0
Total	Never atypical	2.4	77.6	24.6	9.0
	Sometimes atypical	2.8	75.3	22.0	11.6
	Usually atypical	3.6	72.0	19.5	10.0
Evening work					
Men	Never	3.7	80.5	24.2	8.5
	Sometimes	3.3	75.2	20.3	12.5
	Usually	4.3	73.0	20.2	12.3
Women	Never	1.6	68.2	22.4	10.6
	Sometimes	1.9	65.4	u	u
	Usually	3.2	62.8	12.6	u

		Accidents at work	Sick leave > 1 day*	Sick leave > 1 month	Road accidents
		%	% of accidents	% of accidents	% of accidents
	EU27	2.9	72.8	20.4	9.6
Total	Never	2.7	77.0	23.7	9.1
	Sometimes	3.8	72.6	19.6	12.2
	Usually	3.9	69.6	17.7	10.5
Night work					
Men	Never	3.5	79.0	23.2	9.0
	Sometimes	4.0	75.4	23.3	13.7
	Usually	5.2	74.8	21.7	13.9
Women	Never	1.7	67.5	20.7	9.9
	Sometimes	3.1	63.5	u	u
	Usually	3.8	61.2	u	u
Total	Never	2.7	75.5	22.4	9.3
	Sometimes	3.7	72.4	20.6	12.4
	Usually	4.8	71.5	19.2	12.5
Saturday work					
Men	Never	3.6	80.5	23.8	8.5
	Sometimes	3.7	80.0	25.0	11.4
	Usually	4.0	73.0	20.4	11.6
Women	Never	1.4	69.3	23.0	11.3
	Sometimes	2.0	61.3	u	u
	Usually	2.8	65.9	17.3	u
Total	Never	2.6	77.5	23.6	9.3
	Sometimes	3.1	75.5	22.4	11.9
	Usually	3.5	70.5	19.3	9.7
Sunday work					
Men	Never	3.7	80.7	24.1	9.3
	Sometimes	3.5	69.8	20.9	11.6
	Usually	4.3	73.1	20.0	12.4
Women	Never	1.6	68.8	20.8	12.2
	Sometimes	2.3	60.1	u	u
	Usually	3.5	64.3	20.8	u
Total	Never	2.7	77.6	23.2	10.1
	Sometimes	3.0	66.9	19.9	10.5
	Usually	4.0	69.7	18.3	9.2

*: IE not included since IE did not distinguish between “no sick leave” and “one day of sick leave”

( ): limited reliability due to small sample size, u: not available or sample size below publication limit

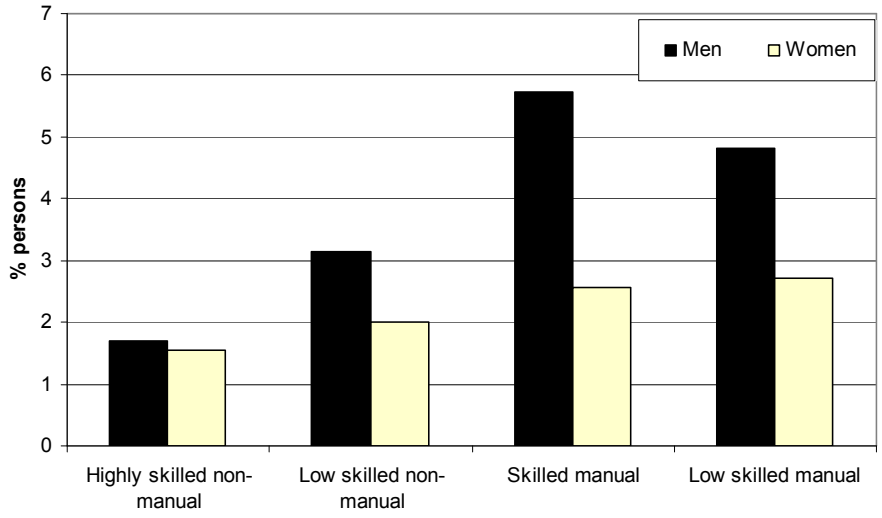

Figure 5.7 Workers reporting one or more accidental injuries at work or in the course of work in the past 12 months in their main job in different occupations *
* *sample size is below publication limit for Army*

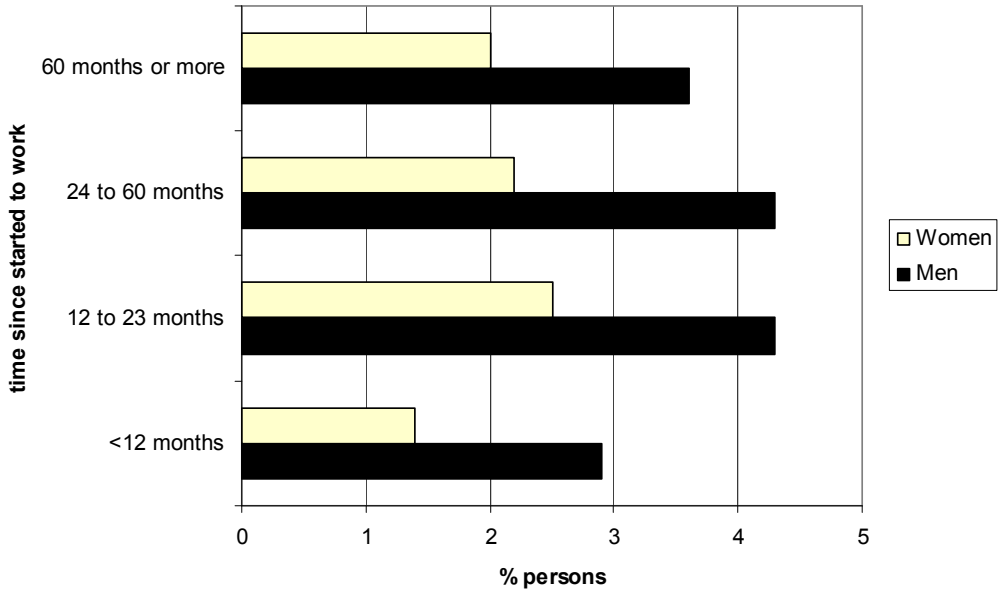

Figure 5.8 Workers reporting one or more accidental injuries at work or in the course of work in their main job and days off in the past 12 months for different durations of employment.

5.3 Accidents at work related to demographic and work characteristics – univariate and multivariate analyses

In 5.1 an overview was presented of the occurrence of accidents at work in the EU, in different countries and in various subgroups of workers. Descriptive analyses were used to present these figures. To analyse differences in the occurrence of accidents between subgroups of workers logistic regression analyses were carried out. For a further explanation of this methodological approach we refer to Annex C. In the next part

the results are presented of these analyses. Persons not working at the time of the interview and persons reporting accidents in another job than their main job, were excluded from the analyses.

First variables were checked for collinearity. Based on the high correlations between the variables indicating working hours per week and full-time/part-time, working hours per week was not included in the multivariate analyses. The variables evening work, night work, Saturday work and Sunday work were also highly correlated. Based on these high correlations and preliminary analyses showing the separate variables were in a similar way related to accidents at work, only the variable atypical working hours was included in the multivariate analyses. The variable atypical working hours is a combination of the variables evening work, night work, Saturday work, and Sunday work.

In all analyses the occurrence of one or more accidents at work acted as the dependent variable, while age, sex, country and work characteristics acted as the independent variables. First univariate analyses were carried out, in which all independent variables were analysed separately. Subsequently, multivariate analysis was performed, in which all independent variables were combined in one model (see Annex C). The UK could not be included in the multivariate analysis, since data on two work characteristics were not available (shift work, variables on atypical working hours).

Table 5.4 Contribution of demographic and work characteristics to the likelihood of an accident at work in the past 12 months in their main job (Odds Ratio's and Confidence Intervals)

	Univariate analyses		Multivariate analyses	
	OR	CI	OR	CI
Gender				
Men	ref			
Women	0.52	0.49-0.55	0.69	0.64-0.75
Age				
15-24 jr	1.15	1.09-1.22	1.14	1.04-1.24
25-34 jr	1.06	1.01-1.11	1.12	1.06-1.19
35-44 jr	1.03	0.99-10.8	1.04	0.98-1.10
45-54 jr	0.91	0.97-0.95	0.89	0.84-0.95
55-64 jr	0.87	0.83-0.92	0.85	0.78-0.92
Country[1]				
BE	1.24	1.11-1.39	1.41	1.13-1.75
BG	0.24	0.19-0.29	0.23	0.17-0.30
CZ	1.04	0.95-1.13	0.95	0.85-1.04
DK	1.95	1.79-2.12	2.19	1.98-2.41
DE	1.11	1.02-1.20	1.19	1.09-1.30
EE	0.91	0.79-1.05	0.81	0.69-0.95
IE	0.56	0.51-0.61	0.53	0.42-0.67
EL	0.73	0.66-0.80	0.74	0.65-0.83
ES	1.56	1.46-1.68	1.59	1.45-1.74
FR	2.01	1.85-2.19	2.47	2.26-2.70
IT	1.08	1.01-1.16	1.19	1.10-1.29
CY	1.15	0.97-1.37	1.28	1.04-1.57
LV	0.76	0.54-1.08	0.79	0.53-1.19
LT	0.39	0.31-0.49	0.38	0.29-0.49
LU	1.37	1.04-1.81	1.81	1.33-2.45
HU	0.40	0.35-0.46	0.38	0.32-0.44
MT	1.26	1.03-1.55	1.16	0.91-1.47
NL	0.97	0.90-1.04	1.30	1.19-1.43

	Univariate analyses		Multivariate analyses	
	OR	CI	OR	CI
AT	2.00	1.81-2.20	2.09	1.88-2.34
PL	0.40	0.35-0.46	0.34	0.29-0.41
PT	1.20	1.08-1.34	1.14	1.00-1.29
RO	0.86	0.78-0.95	0.52	0.45-0.59
SI	1.50	1.31-1.72	1.45	1.24-1.69
SK	0.63	0.54-0.73	0.48	0.40-0.57
FI	2.71	2.52-2.92	2.93	2.69-3.19
SE	2.01	1.90-2.12	2.53	2.36-2.71
UK	1.24	1.17-1.31	[2]	
Professional status				
Employee	ref			
Self employed	0.84	0.79-0.90	[2]	
Sector				
Agriculture, hunting and forestry	1.43	1.26-1.62	1.30	1.06-1.60
Fishing	u	u	u	u
Mining and quarrying	u	u	u	u
Manufacturing	1.47	1.33-1.63	1.20	1.08-1.34
Electricity, gas and water supply	u	u	u	u
Construction	2.09	1.88-2.32	1.57	1.39-1.78
Wholesale retail trade, repair	1.00	0.90-1.11	1.16	1.02-1.32
Hotels and restaurants	1.33	1.16-1.52	1.69	1.43-2.00
Transport/storage/communication	1.36	1.20-1.53	1.13	0.97-1.30
Financial intermediation	0.52	0.44-0.62	0.51	0.38-0.69
Real estate, renting and business activities	0.64	0.56-0.73	0.96	0.82-1.13
Public administration and defense	1.02	0.90-1.16	1.29	1.11-1.50
Education	0.72	0.63-0.83	1.29	1.09-1.52
Health and social work	1.27	1.13-1.42	1.92	1.68-2.19
Other community activities	0.90	0.78-1.04	1.16	0.97-1.38
Private households with employed persons	u	u	u	u
Extra-territorial organizations and bodies	u	u	u	u
Occupation				
Highly skilled non manual	0.50	0.46-0.54	0.52	0.46-0.57
Low skilled, non manual	0.74	0.68-0.80	0.82	0.74-0.91
Highly skilled, manual	1.67	1.54-1.81	1.95	1.76-2.17
Low skilled, manual	1.30	1.19-1.41	1.43	1.29-1.58
Army	u	u	u	u
Size firm				
> 10 persons	ref			
10 persons or less	0.84	0.79-0.89	0.84	0.77-0.91
Time since started work				
60 months or more	ref			
<12 months	0.75	0.69-0.81	0.67	0.60-0.75
12-24 months	1.21	1.11-1.31	1.20	1.07-1.35
24-60 months	1.16	1.08-1.23	1.14	1.04-1.25
Full-time/Part-time				
Full time	ref			
Part time	0.59	0.55-0.64	0.72	0.64-0.81
Type of contract				
Permanent	ref			
Temporary	0.89	0.82-0.96	0.91	0.82-1.02
Shift work				
No shift work	ref			
Shift work	1.47	1.38-1.58	1.19	1.09-1.29

	Univariate analyses		Multivariate analyses	
	OR	CI	OR	CI
Atypical working hours				
Never	ref			
Sometimes	1.18	1.09-1.27	1.30	1.19-1.42
Usually	1.49	1.40-1.58	1.43	1.32-1.56
Evening work				
Never	ref			
Sometimes	1.04	0.97-1.12		
Usually	1.47	1.37-1.57		
Night work				
Never	ref			
Sometimes	1.41	1.29-1.54		
Usually	1.82	1.67-1.99		
Saturday work				
Never	ref			
Sometimes	1.22	1.13-1.31		
Usually	1.38	1.30-1.46		
Sunday work				
Never	ref			
Sometimes	1.12	1.03-1.21		
Usually	1.49	1.39-1.60		

[1]Only EU27 countries are included in the present analysis. When HR was included, the following was found: univariate analysis OR 0.79 (0.64-0.96), multivariate analysis OR 0.58 (0.44-0.76). When NO was included, the following was found: univariate analysis OR 1.22 (1.10-1.36), multivariate analysis OR 1.48 (1.25-1.76).

[2] Dropped as a result of missing data

( ): limited reliability due to small sample size, u: not available or sample size below publication limit

Table 5.5 shows the odds ratio's of different categories of the independent variables. Values less than one imply a lower likelihood of an accident and values greater than one imply a higher likelihood, when compared to the reference value. If no reference value is indicated in the table, the mean of the other categories served as the reference value. The table shows that for many variables the results of the multivariate analyses did not differ substantially from the univariate analyses. In some sectors the likelihood of the occurrence of an accident decreased after including work characteristics in the model ('Agriculture', 'Manufacturing', 'Construction'). An explanation is that the higher likelihood of an accident in these sectors was caused by the presence of these potential work-related risk factors in these sectors.

The likelihood of an accident at work in workers with shift work and atypical working hours decreased as well. This may be related to the high correlation between these variables, causing that the effect of one variable is partly explained by the effect of the other variable. Additional analyses showed that the OR of shift work in multivariate analyses without atypical working hours is 1.40 (CI: 1.30-1.51) and the OR of atypical working hours in multivariate analyses without shift work is 1.35 (CI: 1.24-1.47) for sometimes atypical working hours and 1.52 (CI: 1.42-1.64) for usually atypical working hours. These OR's do not differ much from those of the univariate analyses.

5.4 Discussion and conclusion

In the EU27, 3.2 % of the respondents that are currently working or have been working during the last 12 months reported an accident at work in the past 12 months. This figure may be an underestimation as result of the high number of proxies used. Almost

three-quarter (73%) of these accidents resulted in sick leave for at least one day, and 22% for at least one month. Ten percent of all accidents concerned road accidents.

Men reported more often accidents than women. The multivariate analyses showed that this difference could partly be explained by different work characteristics. Among men, the occurrence of accidents decreased with age. Although differences in work characteristics seem to be an obvious explanation, the multivariate analyses showed no indication for that.

The highest percentage of accidents was reported by men in the sector Construction. The multivariate analyses showed that, the likelihood of an accident is also high in the sectors Hotels and restaurants and Health and social work, in particular after the adjustment for work characteristics. This could be explained by the occurrence in these sectors of some work characteristics that in general were associated with a lower likelihood of accidents, such as non-manual work, part-time, temporary contracts, less time before entering work, and small companies. The latter only applies for the sector Hotels and restaurants.

Of the work characteristics, the highest occurrence of accidents was reported by manual workers. Manual work goes together with other unfavourable work characteristics such as shift work and atypical working hours, which also were associated with a high occurrence of accidents.

Differences between Member States are large. The multivariate analyses showed that these differences could not be explained by differences in demographic characteristics or the work characteristics, as known from the Labour Force Survey. Interpretation of these differences is difficult. Differences between Member States could be attributed to several factors, such as culture, policy, awareness, wording of the questionnaires and use of proxies. Since, most of these factors are unknown we cannot draw conclusions on differences between countries.

6 Results on work-related health problems

This chapter gives an overview of the results on work-related health problems of the LFS 2007 ad hoc module. Figures refer to persons aged 15 to 64 years, who were working or had been working previously. The proposed questionnaire is included in Annex A. For an explanation of the codes and classifications used, we refer to annex B. Methodological notes are given in Annex C.

6.1 Quality assessment

Apart from actual differences between countries, differences in the occurrence of work-related health problems could be caused by differences in the wording of the questionnaires or differences in the use of proxies (also see Chapter 4). Wording differences and the use of proxies might not only hamper the comparison between countries, but might also influence the overall EU27 on work-related health problems. As concluded in chapter 4.2.3, the main differences in the wording of the questionnaires refer to the different construction of the questionnaire used in France; the lack of an explicit reference to mental health problems in BE, DE, EE, IE, HU, NL, RO and SK. Based on the first issue, we decided to present data with and without France in this chapter en the accompanying annexes. This is explained further in chapter 6.1.2. The second issue was expected to lead to an underestimation of the number of work-related health problems in these countries. Furthermore, in these countries it might lead to a lower percentage mentioning 'stress, anxiety or depression' as the main health problem. This pattern was not found in all countries involved. Therefore we must conclude that it is not clear if and how far percentages were influenced by this different wording.

The use of proxies may have led to biased results, since proxies may represents a specific group of workers. This was not investigated further. Also, proxies may not be aware of work-related health problems of another person of the household. Therefore, an underestimation may occur. The comparison of the occurrence of work-related health problems between proxies and direct respondents showed that proxies reported health problems less often (6.8% and 11.5% - unweighted)[9]. This may be an indication of an underestimation of the results presented for countries with a high proportion of proxies and for the EU27 figure in general.

6.2 Occurrence of work-related health problems

By means of descriptive analyses, the occurrence of work-related health problems suffered during the past 12 months will be presented by country, by demographic characteristics, and by work characteristics. Furthermore, the type of work-related health problems and its consequences for sick leave and limitations in day to day activities will be described.

6.2.1 Work-related health problems in the EU27 and the participating countries

Table 6.1 presents an overview of the data on health problems caused or made worse by work in the past 12 months in the EU27, the EU15, and for every country separately, including Norway and Croatia. In the EU27 13.5% of the respondents reported

[9] The analysis was based on data on proxies in the core LFS. In two countries (BE, AT), proxies answered questions of the core LFS, but not of the ad hoc module. As a consequence, the influence of proxies on the resulting data might be underestimated.

a work-related health problem. This corresponds to approximately 36 million persons. The occurrence of work-related health problems ranged from 3.2% in Ireland to 48.8% in France (Table 6.1, Figure 6.1). In total, 5.2% of the persons reported two or more work-related health problems, which corresponded to approximately 5.2 million persons.

The high occurrence of work-related health problems in France can partly be explained by a different construction of the questions, as discussed in the wording analysis presented in Chapter 4.2. If France was not taken into account, 8.6% (instead of 13.5%) of the respondents in the EU27 without France reported a work-related health problem, which corresponds to approximately 20 million persons (Table 6.1). Besides, 2.1% (instead of 5.2%) of the persons reported two or more work-related health problems.

Respondents were asked if the most serious work-related health problem resulted in sick leave. In the EU27, 4.8% of the persons reported sick leave for at least one day due to a work-related health problem. This corresponds to approximately 12.7 million persons. Among persons with work-related health problems in the EU27, this health problem resulted in sick leave in 42.5% of the persons. The proportion of sick leave differed substantially among countries. It ranged from 19.8% in France to 98.1% in Slovenia (Table 6.1, Figure 6.2).

In the EU27 without France, 4.3% reported sick leave for at least one day due to the most serious work-related health problem, i.e. approximately 10.0 million persons. Among persons with work-related health problems in the EU27 without France, this health problem resulted in sick leave in 62.0% of the persons (Table 6.1).

Sick leave for one month or more due to the most serious work-related health problem was reported by 2.0% in the EU27, corresponding to 5.5 million persons. Among the persons reporting work-related health problems in the EU27, sick leave for one month or more was reported by 24.9%. This ranged from 8.1% in France to 66.8% in The Netherlands (Table 6.1, Figure 6.3).

In the EU27 without France, 1.87% of the respondents were off work at least one month due to their most serious work-related health problem. Among those with a work-related health problem, sick leave for one month or more was reported by 27.0% (Table 6.1).

Respondents were also asked if the most serious work-related health problem caused or made worse the ability to carry out activities either at work or outside work. Answer categories were “No”, “Yes, to some extent” and “Yes, considerably”. Considerable limitations due to work-related health problems were reported by 3.6%, corresponding to 9.8 million persons in the EU27. Among the persons reporting work-related health problems in the EU27, 27.4% reported considerable limitations. Differences between countries were large. Among countries, the proportion of considerable limitations ranged from 7.7% in Italy to 54.9% in Latvia (Table 6.1, Figure 6.4).

In the EU27 without France, considerable limitations due to work-related health problems were reported by 1.9%. Among the persons reporting work-related health problems in the EU27 without France, 22.3% reported considerable limitations (Table 6.1). For every question on work-related health problems (c214-c220), the percentage

per response category in the EU27 (with and without France) is provided in Annex G (Table A-E).

Table 6.1 Work-related health problems in the past 12 months, days off work and limitations due to these health problems in the EU27, EU15, and participating countries including Croatia and Norway

	Work-related health problem(s)	Sick leave > 1 day	Sick leave > 1 month	Considerable limitations
	%	% of work-related health problems	% of work-related health problems	% of work-related health problems
EU27	13.5	42.5	18.3	27.4
EU15	10.4	49.5	24.7	28.5
EU27 without FR	8.6	62.0	27.0	22.3
EU15 without FR	7.4	62.3	29.2	22.0
BE	11.7	69.8	40.6	26.9
BG	4.9	50.6	29.1	31.2
CZ	8.5	97.7	36.7	44.9
DK	12.9	67.0	34.2	31.8
DE	6.1	74.7	22.8	13.3
EE	9.0	58.3	26.0	24.0
IE	3.2	53.9	25.1	26.4
EL	6.6	47.1	15.2	17.2
ES	5.8	72.8	46.2	29.9
FR	48.8	19.8	8.1	33.6
IT	6.9	47.3	16.8	7.7
CY	8.4	65.7	26.8	37.9
LV	4.1	63.6	46.7	54.9
LT	4.0	93.2	(33.5)	(24.7)
LU	3.8	80.1	48.5	21.5
HU	5.4	44.9	12.5	28.4
MT	4.0	47.2	u	(20.6)
NL	11.0	97.9	66.8	34.4
AT	15.0	61.3	31.3	26.0
PL	22.2	53.9	17.8	17.5
PT	7.8	41.7	21.4	48.1
RO	5.2	66.0	21.5	30.2
SI	10.2	98.1	(32.2)	47.6
SK	6.0	89.8	46.4	25.9
FI	24.4	43.0	18.7	15.9
SE	14.3	37.9	17.0	24.6
UK	5.0	62.5	31.1	31.4
HR	8.1	70.6	39.5	45.1
NO	11.7	58.4	28.1	25.3

(): limited reliability due to small sample size, u: not available or sample size below publication limit

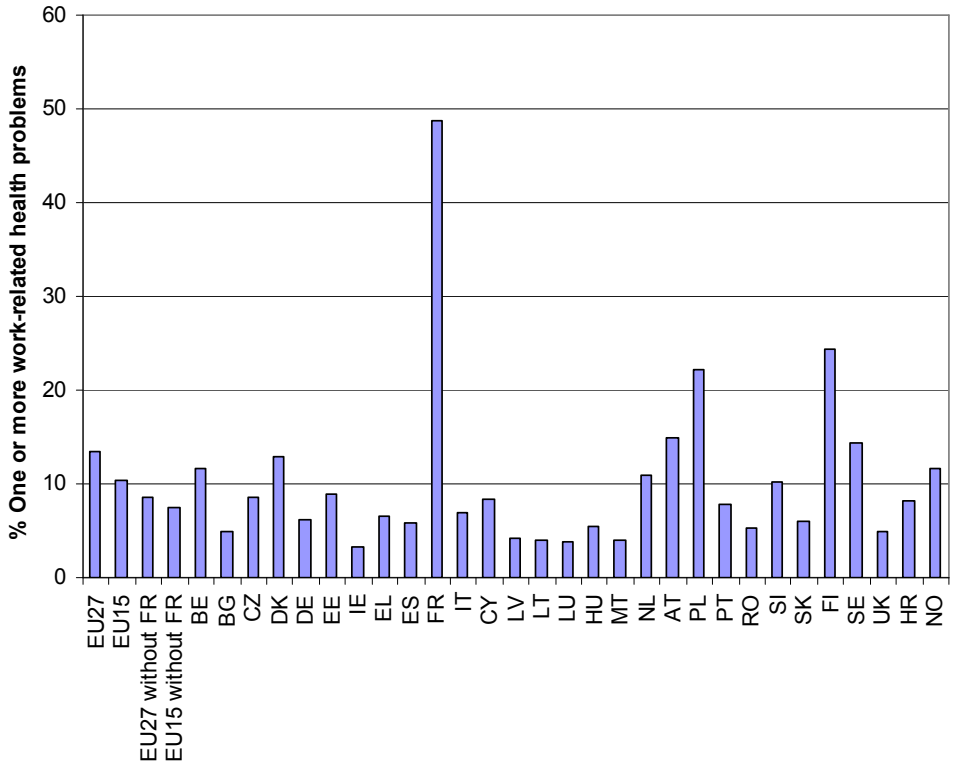

Figure 6.1 Work-related health problems in the past 12 months in the EU27, EU15 and participating countries, including Croatia and Norway

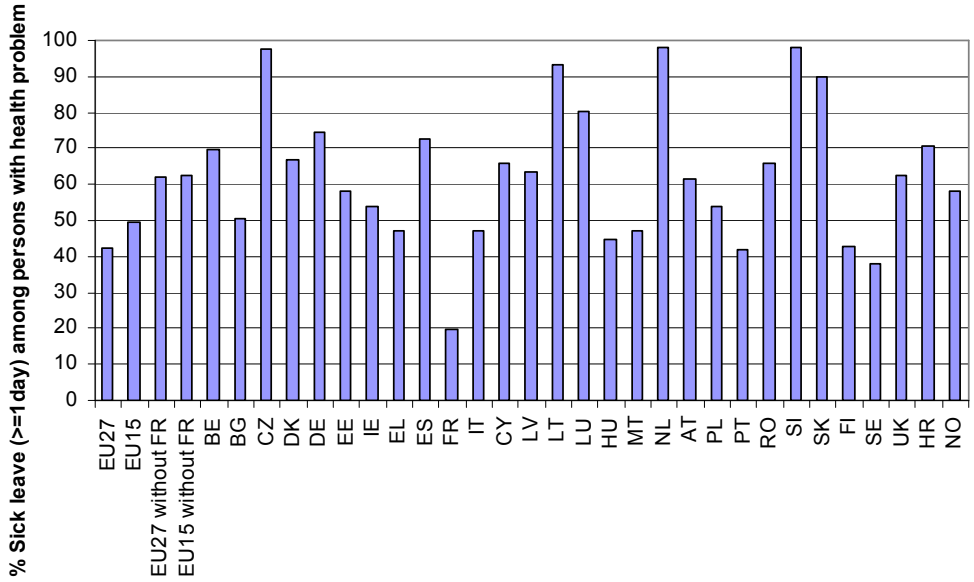

Figure 6.2 Percentage sick leave for at least one day among persons with work-related health problems in the past 12 months in the EU27, EU15 and participating countries, including Croatia and Norway

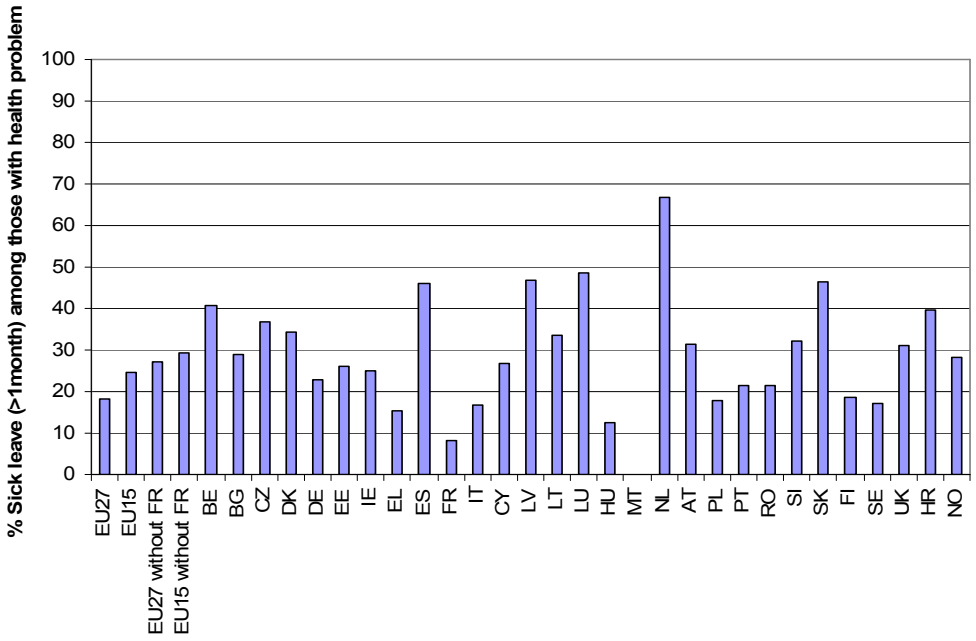

Figure 6.3 Percentage sick leave for at least one month among persons with work-related health problems in the past 12 months in the EU27, EU15 and participating countries, including Croatia and Norway

% of LT and SI has limited reliability due to small sample size; the sample size of MT is below publication limit

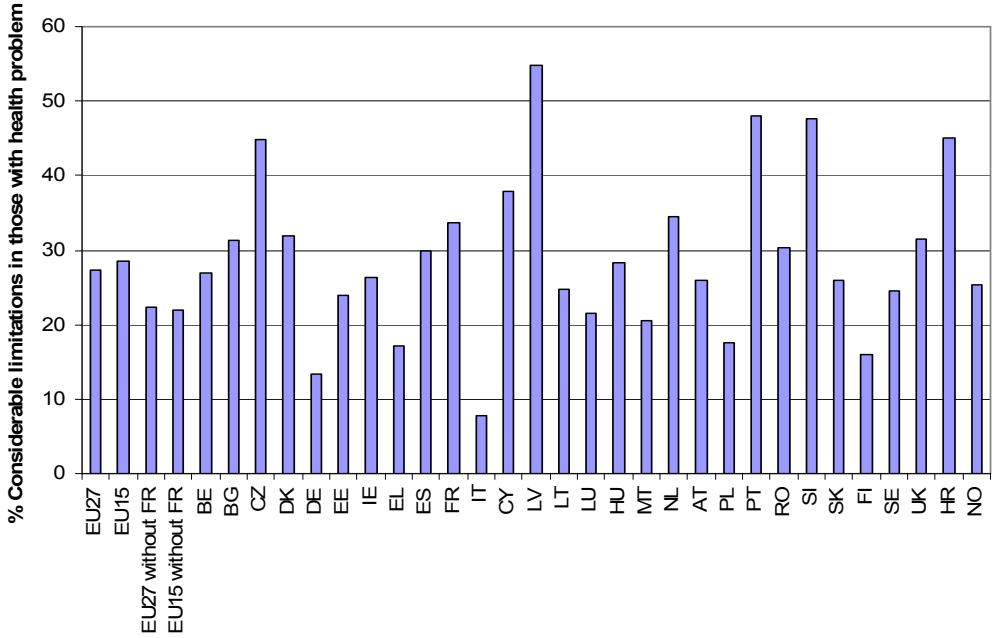

Figure 6.4 Percentage considerable limitations among persons with work-related health problems in the past 12 months in the EU27, EU15 and participating countries, including Croatia and Norway

% of LT and MT has limited reliability due to small sample size

Table 6.2 shows the type of work-related health problem that was indicated as the most serious work-related health problem in the EU27, EU15 and the different countries, including Croatia and Norway. 'Bone joint or muscle problems mainly affecting the back', 'Bone joint or muscle problems mainly affecting the neck, shoulders, arms or hands', and 'Stress, depression or anxiety' were reported most often as the most serious health problem in the EU27. Back problems were reported most often in Germany and Austria, whereas problems with the neck, shoulders, arms or hands were most frequently found in Finland and Norway. 'Stress, depression or anxiety' was most often reported as the main work-related health problem in the United Kingdom, Sweden and France.

Breathing or lung problems, skin problems, hearing problems, and heart problems were not frequently described as the most serious work-related health problem. In addition, the sample size of respondents mentioning them was often unreliable or below the publication limit. Infectious diseases were also seldom described as the most serious work-related health problem with the exception of the Czech Republic, where it was mentioned by 24.5% of the respondents with a work-related health problem.

Table 6.2 Type of work-related health problem indicated as the most serious in persons with a work-related health problem in the past 12 months in the EU27, EU15, and participating countries including Croatia and Norway

	Bone joint or muscle problem which mainly affects neck, shoulders, arms or hands	Bone, joint or muscle problem which mainly affects hips, legs or feet	Bone, joint or muscle problem which mainly affects back	Breathing or lung problem	Skin problem	Hearing problem	Stress, depression or anxiety	Headache and/or eyestrain	Heart disease or attack, or other problems in the circulatory system	Infectious diseases	Other
EU27	16.1	9.9	28.3	3.7	1.9	2.2	19.9	5.9	5.3	1.8	5.2
EU15	16.5	8.1	28.6	3.2	2.1	2.4	22.9	5.7	4.0	1.5	5.1
EU27 without FR	18.8	12.6	28.4	5.2	1.3	1.4	13.7	4.4	5.9	2.5	5.8
EU15 without FR	21.2	10.0	29.2	4.9	1.4	1.5	17.3	2.9	3.5	2.1	6.0
BE	16.5	12.8	28.3	4.9	(0.8)	(0.8)	17.4	3.7	4.4	1.9	8.6
BG	12.7	14.0	10.7	9.0	u	u	8.0	8.5	15.6	7.4	10.5
CZ	8.4	10.3	25.9	12.2	1.8	(0.3)	2.6	1.5	5.3	24.5	7.3
DK	22.0	10.8	26.2	(1.5)	(1.3)	0.6	24.0	2.3	1.9	2.6	6.2
DE	24.9	9.6	40.8	3.1	u	u	9.5	2.5	2.5	u	3.0
EE	16.8	11.4	26.5	8.0	(1.9)	u	5.4	3.6	11.3	10.0	4.7
IE	16.1	9.6	29.5	7.6	u	u	17.4	u	(4.3)	u	7.8
EL	13.0	11.2	31.0	6.0	2.1	(0.4)	6.7	5.2	9.4	9.4	5.7
ES	18.5	14.6	29.3	5.8	1.0	0.8	16.5	1.3	4.3	1.8	6.2
FR	12.6	6.5	28.1	1.8	2.6	3.1	27.6	7.9	4.4	1.0	4.4
IT	13.6	6.9	29.3	7.9	1.7	3.1	20.0	6.6	4.6	1.8	4.5
CY	15.7	10.6	30.2	8.3	(1.4)	u	(2.3)	(3.1)	8.8	9.6	9.4
LV	(16.4)	(16.8)	29.0	u	u	u	u	u	u	u	(11.2)
LT	(9.2)	(9.9)	(25.0)	(16.4)	u	u	u	u	(10.0)	(11.6)	u
LU	12.1	13.0	37.1	u	u	u	22.6	u	u	u	u
HU	20.6	20.0	21.2	4.7	1.8	2.2	7.3	5.3	11.9	(1.1)	4.2
MT	u	u	(33.2)	u	u	u	(28.5)	u	u	u	u

	Bone joint or muscle problem which mainly affects neck, shoulders, arms or hands	Bone, joint or muscle problem which mainly affects hips, legs or feet	Bone, joint or muscle problem which mainly affects back	Breathing or lung problem	Skin problem	Hearing problem	Stress, depression or anxiety	Headache and/or eyestrain	Heart disease or attack, or other problems in the circulatory system	Infectious diseases	Other
NL	21.4	10.3	24.5	4.1	1.2	(0.5)	16.7	2.1	4.6	2.0	12.5
AT	14.9	12.6	38.8	4.9	1.6	1.6	6.5	1.7	4.2	6.0	7.1
PL	15.6	20.0	27.6	2.8	0.7	1.4	7.1	7.9	10.9	0.7	5.3
PT	21.8	13.2	20.3	6.8	u	u	20.6	3.5	u	u	6.6
RO	6.5	10.8	22.5	19.9	(1.6)	1.7	6.8	7.7	13.8	3.2	5.6
SI	12.9	(8.1)	37.3	(2.5)	(0.9)	(1.0)	27.8	4.8	1.6	0.2	(3.1)
SK	12.6	12.5	35.9	8.1	u	u	4.9	7.4	9.6	u	3.4
FI	40.6	9.8	17.6	8.5	2.6	1.2	10.0	2.0	2.5	1.4	3.8
SE	31.7	7.0	20.2	1.2	(0.8)	1.2	28.4	2.2	1.0	(0.6)	5.8
UK	19.4	8.2	22.9	4.0	1.3	1.7	29.4	1.6	2.1	2.2	7.1
HR	11.4	(13.3)	30.5	(3.3)	u	u	(14.9)	(3.7)	(12.4)	u	(8.6)
NO	35.8	8.9	23.2	1.8	1.0	0.4	9.8	2.6	2.3	0.6	13.6

(): limited reliability due to small sample size, u: not available or sample size below publication limit

6.2.2 *Consequences of the different wording of the questionnaire in France*

The results presented in chapter 6.1.1 show that the results for France deviate highly from the results in other European countries. In all probability this is due to the different construction of the question in the questionnaire used in France. For details on these differences we refer to chapter 4.2.3. Since France is a large country these different results not only have consequences for the interpretation of differences between countries, but they also have a high impact on the total EU27 figures. Table 6.1 shows that in the total EU27 13.5% reported a work-related health problem. If France was left out of the results this percentage was 8.6%. By leaving the results of France out of the total EU27 results we implicitly assume that the results of France are similar to the average EU27 results. However, if an estimation is given of the total number of people in the EU27 with work-related health problems, we suggest to use the actual number without France and add the number of health problems that could be expected in France if the occurence in France was the same as the mean occurrence in the EU27 without France. This corresponds to approximately 23 million persons.

The results of France differ also with regard to the type of work-related health problem. Table 6.2 shows that the French respondents mentioned ‘stress, depression or anxiety’ more often than the average in the EU27. If the results of France were left out of the results the total percentage of respondents indicating this type of health problem as the most important decreased from 19.9% to 13.7%. Nevertheless, some countries report an even higher percentage of ‘stress, depression or anxiety’. We are not able to determine if the high percentage in France is due to the different construction of the French questionnaire.

Based on the conclusions of the wording analysis, we concluded that the results of France could not be compared to the results in other countries. Moreover, they sub-

stantially influence the EU27 figures and lead to a higher occurrence of work-related health problems than may be expected of the original wording of the questionnaire. Therefore, the remaining part of this chapter will contain results without France. Results including France will be presented in Annex G.

6.2.3 *Work-related health problems in the EU27 by demographic characteristics*

Table 6.3 shows the occurrence of work-related health problems in the EU27 by the demographic characteristics age, sex, educational level, and marital status. The differences between men and women were small. Work-related health problems increased with age (Figure 6.5). Moreover, considerable limitations in day tot day activities due to these health problems also increased with age (Figure 6.6). The occurrence of sick leave of one day or more in the past 12 months was relatively similar among different age groups, whereas the occurrence of sick leave of one month or more increased with age (Figure 6.6). High educated respondents had fewer work-related health problems, and also experienced fewer limitations in day to day activities and sick leave as a result of these health problems. In Annex G (Table F), an overview of work-related health problems by demographic characteristics in the EU27 including France is presented.

Table 6.3 Work-related health problems in the past 12 months, sick leave and limitations in the EU27* by demographic characteristics

		Work-related health problem(s)	Sick leave > 1 day	Sick leave > 1 month	Considerable limitations
		%	% of work-related health problems	% of work-related health problems	% of work-related health problems
	EU27*	8.6	62.0	27.0	22.3
Sex					
Men		8.6	62.6	27.2	22.2
Women		8.5	61.3	26.8	22.4
Age					
Men	15-24	2.9	62.5	16.2	14.1
	25-34	5.5	59.2	18.7	15.6
	35-44	8.4	60.4	22.4	17.6
	45-54	11.2	61.7	26.7	22.2
	55-64	12.4	69.2	42.2	30.5
Women	15-24	3.7	55.5	15.6	15.5
	25-34	5.6	58.9	20.3	16.8
	35-44	8.0	59.6	23.8	19.0
	45-54	11.5	61.8	27.0	23.2
	55-64	11.3	66.1	38.9	28.7
Total	15-24	3.2	58.8	15.8	14.8
	25-34	5.5	59.1	19.5	16.2
	35-44	8.2	60.0	23.0	18.3
	45-54	11.4	61.8	26.9	22.7
	55-64	11.9	67.9	40.8	29.7
Education					
Men	Low	9.0	66.1	37.0	26.7
	medium	9.3	63.6	25.1	21.0
	High	6.3	53.8	19.3	18.3
Women	Low	8.8	68.4	39.1	29.6
	medium	8.5	60.8	24.3	20.4
	High	8.3	55.5	19.9	17.9

		Work-related health prob-lem(s)	Sick leave > 1 day	Sick leave > 1 month	Considerable limitations
		%	% of work-related health problems	% of work-related health problems	% of work-related health problems
	EU27*	8.6	62.0	27.0	22.3
Total	Low	8.9	67.1	37.9	28.1
	medium	8.9	62.4	24.8	20.7
	High	7.3	54.8	19.6	18.1
Marital status					
Men	Married	10.1	61.9	26.9	21.4
	Single	6.5	64.2	28.0	23.9
Women	Married	8.6	61.0	27.0	22.4
	Single	8.4	61.6	26.4	22.6
Total	Married	9.4	61.5	27.1	21.9
	Single	7.4	62.8	27.0	23.1

* FR not included

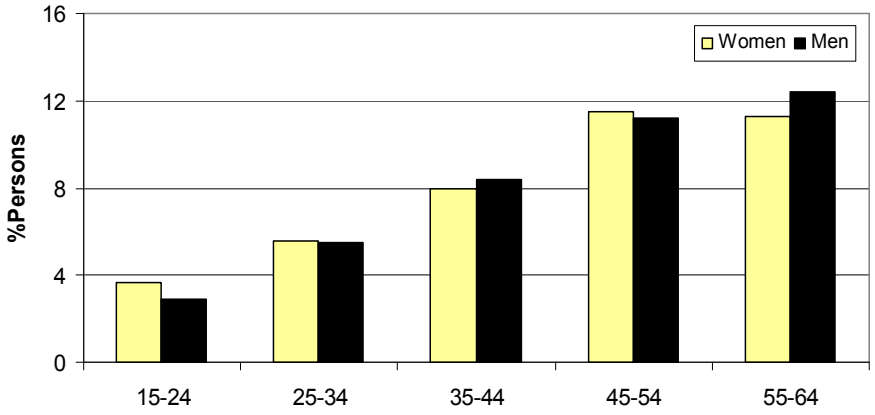

Figure 6.5 The occurrence of one or more work-related health problem in the past 12 months in the EU27* by age
** FR not included*

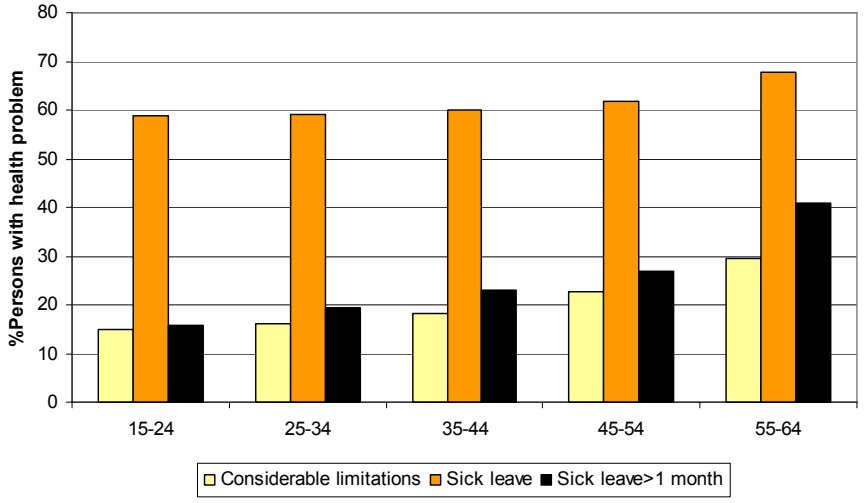

Figure 6.6 Limitations and sick leave as a result of work-related health problems in the past 12 months in the EU27*
** FR not included*

6.2.4 *Type of work-related health problems in the EU27 and resulting limitations in day to day activities and sick leave by demographic characteristics*

In the LFS 2007 ad hoc module, different types of work-related health problems were assessed. 'Bone, joint or muscle problems' and 'stress, anxiety or depression' appeared to contribute importantly to work-related health problems. About 60% of the respondents with work-related health problems reported 'bone, joint or muscle problems' were their most serious work-related health problem, and 14% reported 'stress, depression or anxiety' was the most serious problem (Figure 6.7).

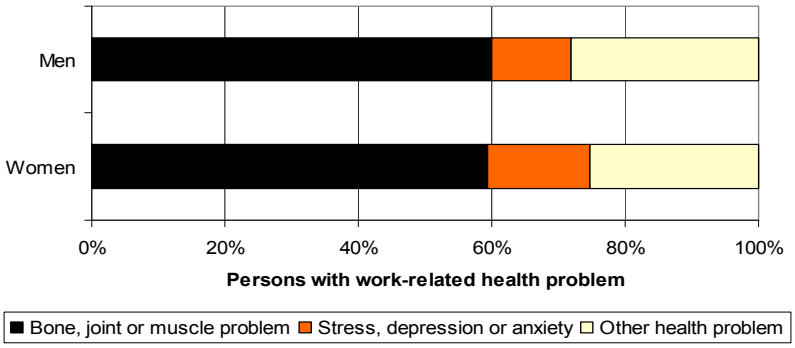

Figure 6.7 Contribution of 'bone, joint or muscle problems' and 'stress, depression or anxiety' to work-related health problems in the past 12 months in the EU27*
**FR not included*

In Figure 6.8 all specific work-related health problems assessed in the ad hoc module are shown for men and women. Both men and women indicated back problems most often as the most serious health problem, followed by problems mainly affecting the 'neck, shoulders, arms or hands'. Men more often reported back problems than women, and women more often had problems with the 'neck, shoulders, arms or hands' than men. Besides 'bone, joint or muscle problems', 'stress, depression or anxi-

ety' was also frequently identified as the most serious work-related health problem, more often in women than in men.

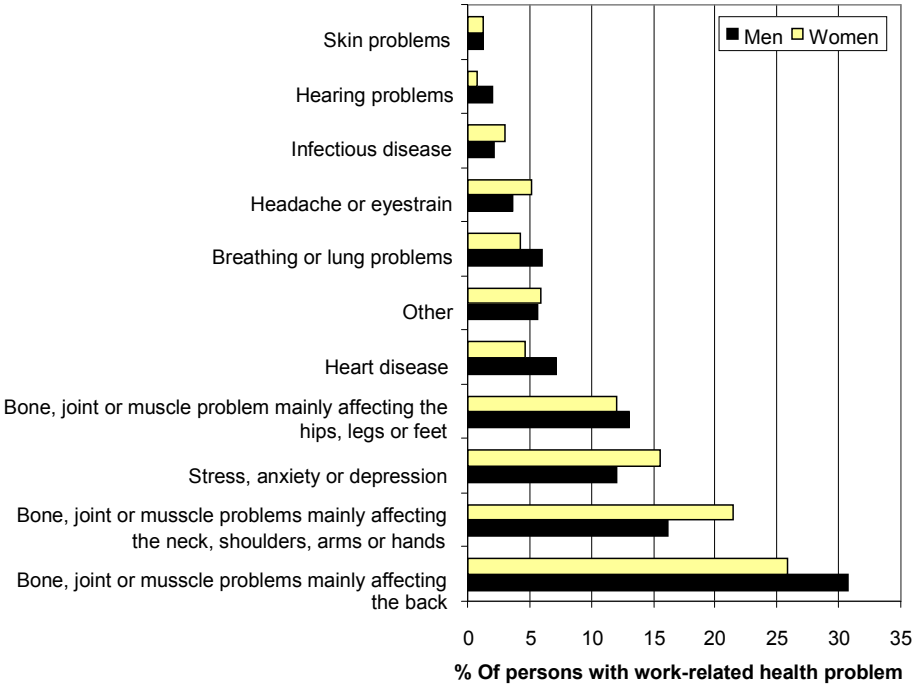

Figure 6.8 Type of work-related health problem indicated as most serious health problem in the past 12 months in the EU27* by sex
** FR not included*

Figure 6.9 shows that educational differences existed for the type of work-related health problem identified as the most serious. Low or intermediate educated persons more often identified back problems and problems with the 'hips, legs or feet' as the most serious work-related health problem than high educated persons. For problems with the 'neck, shoulders, arms or hands', educational differences were smaller. In contrast, high educated persons more often reported 'stress, anxiety or depression' than intermediate or low educated persons. High educated persons also more often reported 'headache or eyestrain'.

Work-related health problems resulted in different consequences for day tot day activities and sickness absence (Table 6.4, Figure 6.10). The proportion of persons with considerable limitations was highest among those with 'heart disease or attack', problems with the 'hips, legs or feet', and 'breathing or lung problems'. The work-related health problem that occurred most often, i.e. problems with the back, resulted less frequently in considerable limitations.

In line with the limitations in day tot day activities, sick leave of one day or more was more likely among persons with a 'heart disease or attack' and 'breathing or lung problems'. Infectious diseases also frequently resulted in sick leave. Prolonged sickness absence, i.e. sick leave for one month or more, was most likely among persons with a 'heart disease or attack and problems of the 'hips, legs or feet'. In addition, 'stress, depression or anxiety' also frequently resulted in prolonged sickness absence.

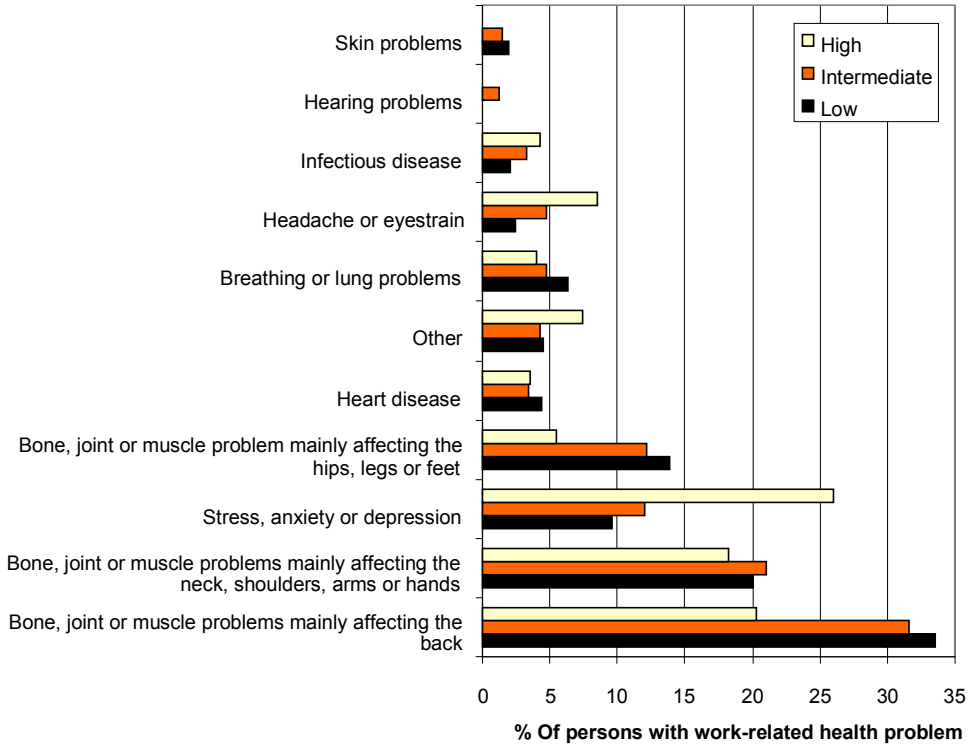

Figure 6.9 Most serious work-related health problem in the past 12 months in the EU27* by education

** FR not included. Sample size below publication limit for skin problems (high education) and hearing problems (high and low education)*

Table 6.4 Consequences of different types of work-related health problems in the past 12 months in the EU27*

	Sick leave	Sick leave> 1 month	Considerable imitations
	% of persons with work-related health problem	% of persons with work-related health problem	% of persons with work-related health problem
Bone, joint or muscle problem which mainly affects neck, shoulders, arms or hands	55.5	23.0	19.4
Bone, joint or muscle problem which mainly affects hips, legs or feet	64.4	33.1	26.1
Bone, joint or muscle problem which mainly affects back	63.7	25.3	20.8
Breathing or lung problem	70.7	25.9	25.8
Skin problem	52.4	16.5	19.0
Hearing problem	40.0	16.8	15.8
Stress, depression or anxiety	59.0	32.2	23.5
Headache and/or eyestrain	47.3	10.0	13.3
Heart disease or attack, or other problems in the circulatory system	73.4	44.3	30.8
Infectious disease (virus, bacteria or other type of infection)	84.8	12.5	21.7

** FR not included*

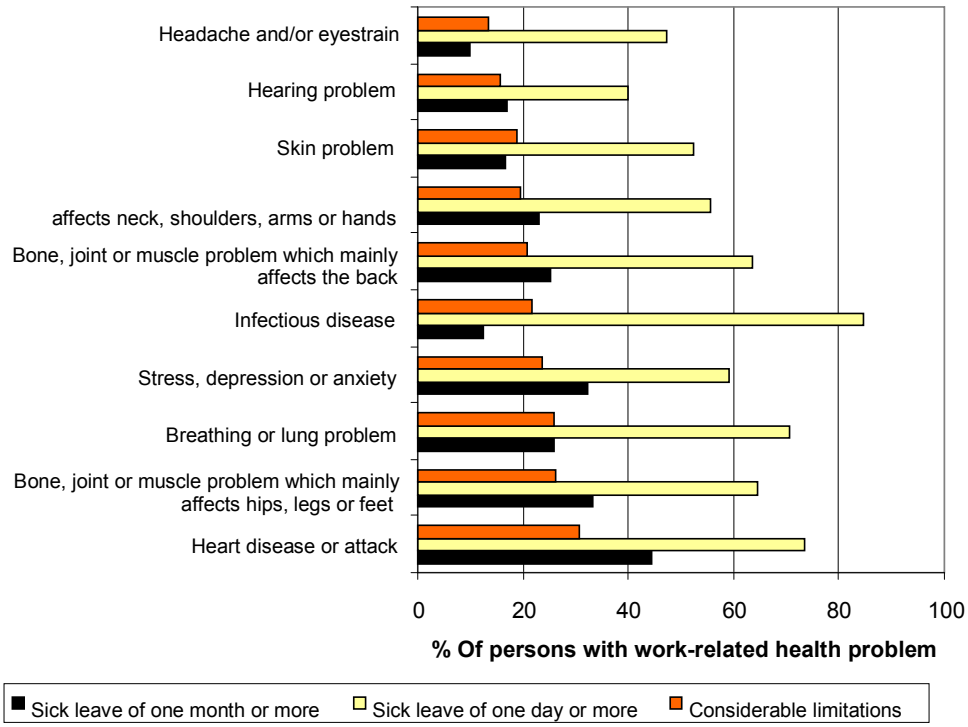

Figure 6.10 Consequences of different types of work-related health problems in the past 12 months in the EU27*
** FR not included*

6.2.5 *Work-related health problems in the EU27 by work characteristics*

The target population consisted of everybody aged 15 to 64 years who is working or has been working previously. As a consequence, the target population also included persons currently not working[10]. Less information on work characteristics was available for the latter group. Hence, for persons who were not working at the time of the interview, work characteristics cannot be described in relation to work-related health problems. Therefore, they were excluded from further analyses.

In addition, 13.1% of those with a work-related health problem in the EU27 without France reported this problem was not caused or made worse by their main current job, but by their second current job, a job one year ago, or some other job. As a consequence, full data on work characteristics were not available for these persons too. Therefore, the following analyses were limited to persons classified as "employed", without health problems caused or made worse by another job than their main job. In Annex G (Table G), work-related health problems, sick leave, and limitations are described for employed and unemployed persons. In addition, demographic characteristics of the different subgroups within the original target population are described (Table H&I).

[10] In this context "currently not working" means did not have a job or business during the time of the interview. Persons who were absent from work for reasons of sickness absence, holidays, maternity leave etc. were classified as currently working.

Table 6.5 presents the percentage of work-related health problems, the proportion of work-related health problems resulting in sick leave, and the proportion of work-related health problems resulting in considerable limitations in relation to work characteristics. Figures refer to persons aged 15 to 64 years, who were working currently, and did have a health problem caused or made worse by their main job. Because of the selection of the study sample described above, the occurrence of work-related health problems and its consequences differs from the data presented in the previous parts of this Chapter. Exclusion of persons with a work-related health problem caused by a second current job or some other job for example reduced the percentage of persons with a work-related health problem. Hence, the percentages presented in Table 6.5 should be considered as an aid to compare subgroups of workers and should not be considered as the true percentage of work-related health problems in these groups.

Table 6.5 and Figure 6.11 show that work-related health problems most often occurred in the sectors 'Agriculture, hunting and forestry' and 'Mining and quarrying'. In contrast, workers in the sectors 'Wholesale retail trade and repair', 'Financial intermediation' and 'Real estate, renting and business activities' reported relatively few work-related health problems.

Differences in the type of work-related health problem existed among sectors. Figure 6.12 shows that musculoskeletal problems were often reported as the most serious work-related health problem in the sector 'Construction'. This was also found for the sectors 'Agriculture and hunting' (75%), and 'Mining and quarrying' (69%) (Not shown in Figure 6.12). In the sectors 'Education', 'Financial intermediation', 'Public administration and defence', and 'Real estate renting and business activities', musculoskeletal problems occurred less frequently. However, they were still reported by 35% to 53% of the workers with a work-related health problem. In these sectors, 'stress, depression or anxieties' were relatively often reported. This was especially the case in the sectors 'Education' (27%) and 'Financial intermediation' (25%).

Highly skilled manual workers were more likely to report a work-related health problem (Figure 6.13). Other groups with a high report of work-related health problems were self-employed persons, persons in a firm with more than 10 persons, persons who had been in employment for a longer period of time, or with a permanent contract, shift work, and atypical working hours.

In Annex G (Table K), work-related health problems of persons working at the time of the interview in the EU27 including France are presented.

Table 6.5 Work-related health problems in the past 12 months in the EU27* by work characteristics, for persons working with health problems caused or made worse by their main job.

		Work-related health problem(s)	Sick leave > 1 day	Sick leave > 1 month	Considerable limitations
		%	% of work-related health problems	% of work-related health problems	% of work-related health problems
	EU27	7.1	57.9	18.5	15.5
Professional status					
Men	Self-employed	8.0	50.0	15.7	14.8
	Employee	6.4	60.9	19.3	14.8
Women	Self-employed	8.7	47.7	14.9	15.8
	Employee	7.4	58.4	18.8	16.2
Total	Self-employed	8.2	49.3	15.5	15.1
	Employee	6.8	59.7	19.1	15.5
Economic activity					
Men	Agriculture, hunting and forestry	11.0	60.0	19.4	15.4
	Fishing	u	u	u	u
	Mining and quarrying	13.3	60.9	u	u
	Manufacturing	6.7	62.2	18.5	15.3
	Electricity, gas and water supply	6.0	u	u	u
	Construction	7.0	60.2	19.4	15.1
	Wholesale retail trade, repair	5.5	54.3	14.6	14.7
	Hotels and restaurants	4.9	51.1	u	u
	Transport, storage and communication	7.9	59.4	21.2	14.7
	Financial intermediation	5.0	51.5	u	u
	Real estate, renting and business activities	5.1	48.9	14.2	12.5
	Public administration and defense	6.6	62.0	20.7	12.9
	Education	6.8	52.6	u	u
	Health and social work	6.9	58.4	u	u
	Other community activities	6.0	56.6	u	u
	Private households with employed persons	u	u	u	u
	Extra-territorial organizations and bodies	u	u	u	u
Women	Agriculture, hunting and forestry	14.1	62.8	20.3	19.2
	Fishing	u	u	u	u
	Mining and quarrying	u	u	u	u
	Manufacturing	7.5	60.2	18.0	17.3

		Work-related health problem(s)	Sick leave > 1 day	Sick leave > 1 month	Considerable limitations
		%	% of work-related health problems	% of work-related health problems	% of work-related health problems
Women	Electricity, gas and water supply	u	u	u	u
	Construction	u	u	u	u
	Wholesale retail trade, repair	5.7	55.9	17.8	14.4
	Hotels and restaurants	5.8	55.6	u	u
	Transport, storage and communication	7.3	57.3	u	u
	Financial intermediation	6.5	54.3	u	u
	Real estate, renting and business activities	5.8	50.8	14.4	14.1
	Public administration and defense	7.7	60.6	22.5	13.9
	Education	8.6	55.1	15.0	15.1
	Health and social work	9.7	60.0	20.8	17.7
	Other community activities	6.9	47.7	u	u
	Private households with employed persons	3.4	u	u	u
	Extra-territorial organizations and bodies	u	u	u	u
Total	Agriculture, hunting and forestry	12.3	61.3	19.8	17.1
	Fishing	u	u	u	u
	Mining and quarrying	12.5	58.9	u	u
	Manufacturing	7.0	61.5	18.3	16.0
	Electricity, gas and water supply	6.2	62.2	u	u
	Construction	6.8	59.7	19.1	15.1
	Wholesale retail trade, repair	5.6	55.1	16.2	14.5
	Hotels and restaurants	5.4	53.9	17.2	15.8
	Transport, storage and communication	7.8	58.9	22.2	15.2
	Financial intermediation	5.7	53.0	18.2	17.7
	Real estate, renting and business activities	5.4	49.8	14.3	13.3
	Public administration and defense	7.1	61.3	21.6	13.4
	Education	8.1	54.5	16.1	15.1
	Health and social work	9.1	59.7	20.5	17.4

		Work-related health problem(s)	Sick leave > 1 day	Sick leave > 1 month	Considerable limitations
		%	% of work-related health problems	% of work-related health problems	% of work-related health problems
Total	Other community activities	6.5	51.5	16.4	15.6
	Private households with employed persons	3.4	u	u	u
	Extra-territorial organizations and bodies	u	u	u	u
Occupation					
Men	Highly skilled, non-manual	5.6	51.2	15.3	14.1
	Low skilled, non-manual	5.7	60.6	18.8	15.1
	Highly skilled, manual	8.5	61.4	19.1	15.1
	Low skilled, manual	6.9	62.3	21.6	15.4
	Army	u	u	u	u
Women	Highly skilled, non-manual	7.9	54.8	15.7	14.4
	Low skilled, non-manual	6.2	57.0	19.9	16.5
	Highly skilled, manual	12.4	61.0	19.9	19.8
	Low skilled, manual	7.7	62.5	22.1	18.3
	Army	u	u	u	u
Total	Highly skilled, non-manual	6.7	53.2	15.5	14.3
	Low skilled, non-manual	6.0	58.1	19.6	16.1
	Highly skilled, manual	9.2	61.3	19.3	16.3
	Low skilled, manual	7.2	62.4	21.8	16.5
	Army	u	u	u	u
Size of firm					
Men	10 persons or less	6.1	53.0	15.2	14.3
	More than 10 persons	6.7	61.3	19.8	14.9
Women	10 persons or less	6.0	55.6	16.0	15.9
	More than 10 persons	8.2	59.2	19.6	16.3
Total	10 persons or less	6.1	54.3	15.6	15.1
	More than 10 persons	7.4	60.3	19.7	15.6
Time since started to work					
Men	<12 months	3.1	50.4	14.4	u
	12 to 23 months	4.6	56.5	12.7	14.6
	24 to 60 months	5.1	60.7	16.8	14.7
	60 months or more	8.3	59.0	19.6	15.1
Women	<12 months	3.6	52.3	u	15.8
	12 to 23 months	5.3	57.4	15.6	15.0
	24 to 60 months	5.9	56.4	16.2	15.1
	60 months or more	9.6	58.0	19.8	16.6

		Work-related health problem(s)	Sick leave > 1 day	Sick leave > 1 month	Considerable limitations
		%	% of work-related health problems	% of work-related health problems	% of work-related health problems
Total	<12 months	3.3	51.4	12.5	13.8
	12 to 23 months	4.9	56.9	14.1	14.8
	24 to 60 months	5.5	58.6	16.5	14.9
	60 months or more	8.8	58.5	19.7	15.8
Full-time and part-time employment					
Men	Fulltime	6.8	58.0	18.2	14.2
	Part-time	5.1	66.9	23.5	25.4
Women	Fulltime	8.2	55.5	16.5	14.8
	Part-time	5.9	63.9	24.8	21.2
Total	Fulltime	7.3	56.9	17.5	14.5
	Part-time	5.8	64.4	24.5	22.1
Hours of work per week					
Men	1-24	4.5	64.9	u	26.0
	25-39	7.1	65.7	21.2	15.5
	40	6.1	59.9	19.0	14.8
	>40	7.8	51.7	15.7	13.3
Women	1-24	5.2	61.4	22.8	19.7
	25-39	8.6	60.1	20.9	16.9
	40	7.4	55.1	15.5	14.6
	>40	9.6	51.9	15.5	14.1
Total	1-24	5.1	62.1	23.0	20.9
	25-39	7.9	62.4	21.0	16.3
	40	6.6	57.9	17.5	14.7
	>40	8.2	51.7	15.7	13.5
Permanency of the job					
Men	Permanent	6.7	61.4	19.3	15.0
	Temporary	4.2	55.8	19.3	12.4
Women	Permanent	7.7	59.2	19.5	16.5
	Temporary	5.2	51.2	12.9	13.7
Total	Permanent	7.2	60.3	19.4	15.7
	Temporary	4.7	53.3	15.9	13.1
Shiftwork					
Men	Never shift work	6.4	59.5	18.5	14.7
	Shift work	8.8	65.0	19.4	13.7
Women	Never shift work	7.3	58.2	18.1	16.2
	Shift work	11.2	56.8	17.3	15.0
Total	Never shift work	6.8	58.9	18.3	15.5
	Shift work	9.8	60.9	18.3	14.3
Atypical work (evening, night, weekend)					
Men	Never atypical	5.9	60.2	22.2	17.8
	Sometimes atypical	8.2	60.5	17.2	12.3
	Usually atypical	8.1	55.6	15.6	13.4
Women	Never atypical	6.7	57.7	20.1	17.1
	Sometimes atypical	9.9	56.4	16.0	13.9
	Usually atypical	9.5	56.9	16.4	16.2
Total	Never atypical	6.3	58.9	21.1	17.4
	Sometimes atypical	8.9	58.8	16.7	13.0
	Usually atypical	8.7	56.2	16.0	14.7
Evening work					
Men	Never	6.3	59.9	20.4	15.6
	Sometimes	8.9	57.4	16.5	12.4
	Usually	8.4	57.3	15.3	13.3

		Work-related health problem(s)	Sick leave > 1 day	Sick leave > 1 month	Considerable limitations
		%	% of work-related health problems	% of work-related health problems	% of work-related health problems
Women	Never	7.1	57.4	19.2	15.7
	Sometimes	11.0	55.9	14.3	13.2
	Usually	10.1	59.0	17.9	17.0
Total	Never	6.7	58.6	19.8	15.7
	Sometimes	9.7	56.7	15.6	12.8
	Usually	9.1	58.0	16.4	14.9
Night work					
Men	Never	6.7	58.7	18.6	14.9
	Sometimes	10.2	56.7	15.9	13.2
	Usually	8.6	58.7	17.7	13.6
Women	Never	7.8	57.3	18.4	16.2
	Sometimes	12.9	53.4	12.6	14.1
	Usually	11.6	59.7	16.7	16.4
Total	Never	7.2	58.0	18.5	15.6
	Sometimes	11.1	55.6	14.7	13.5
	Usually	9.5	59.0	17.3	14.7
Saturday work					
Men	Never	6.2	60.1	20.7	16.9
	Sometimes	8.5	60.5	17.0	11.7
	Usually	8.1	54.5	15.8	13.6
Women	Never	7.1	58.0	19.2	17.1
	Sometimes	10.2	55.4	16.7	14.0
	Usually	9.5	56.9	16.4	15.9
Total	Never	6.6	59.0	19.9	17.0
	Sometimes	9.1	58.4	16.9	12.7
	Usually	8.7	55.7	16.1	14.7
Sunday work					
Men	Never	6.6	59.0	18.6	14.9
	Sometimes	8.9	59.0	17.3	13.0
	Usually	8.9	55.8	17.3	14.8
Women	Never	7.3	57.2	18.0	16.0
	Sometimes	11.2	53.7	15.3	13.8
	Usually	11.3	59.7	19.2	18.0
Total	Never	6.9	58.1	18.3	15.4
	Sometimes	9.8	56.7	16.4	13.4
	Usually	10.0	57.7	18.2	16.4

* FR not included

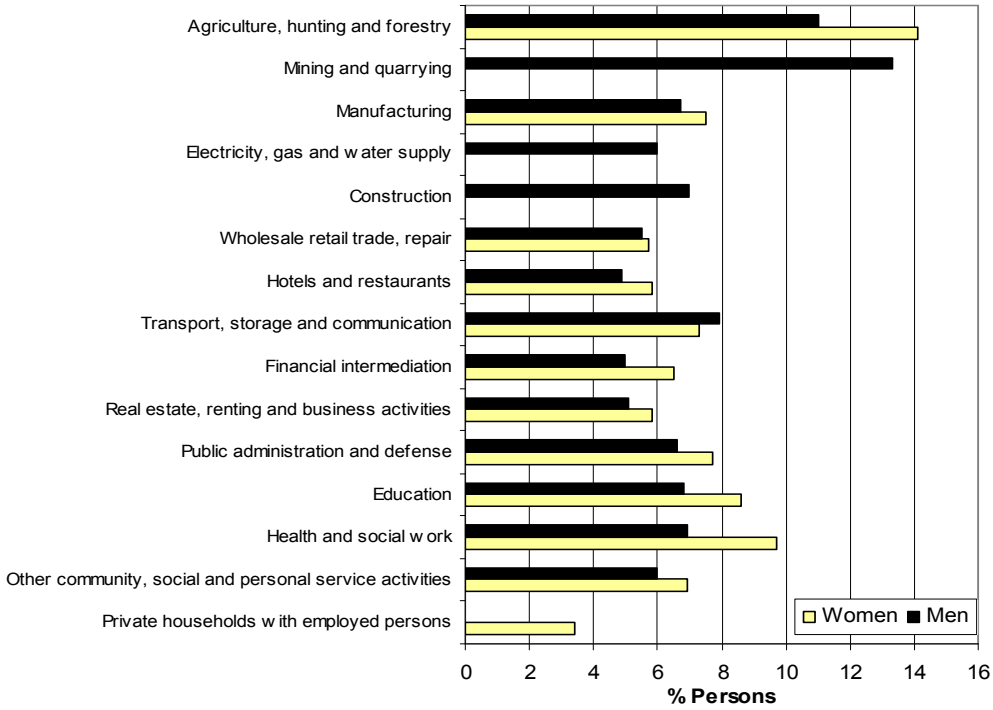

Figure 6.11 Workers with work-related health problems caused or made worse by their main job in the past 12 months in different sectors in the EU27*. **FR not included. Sample size is below publication limit for Fishing, Mining and quarrying (women), Electricity gas and water supply (women), Construction (women), Private households with employed persons (men), Extraterritorial organizations and bodies.*

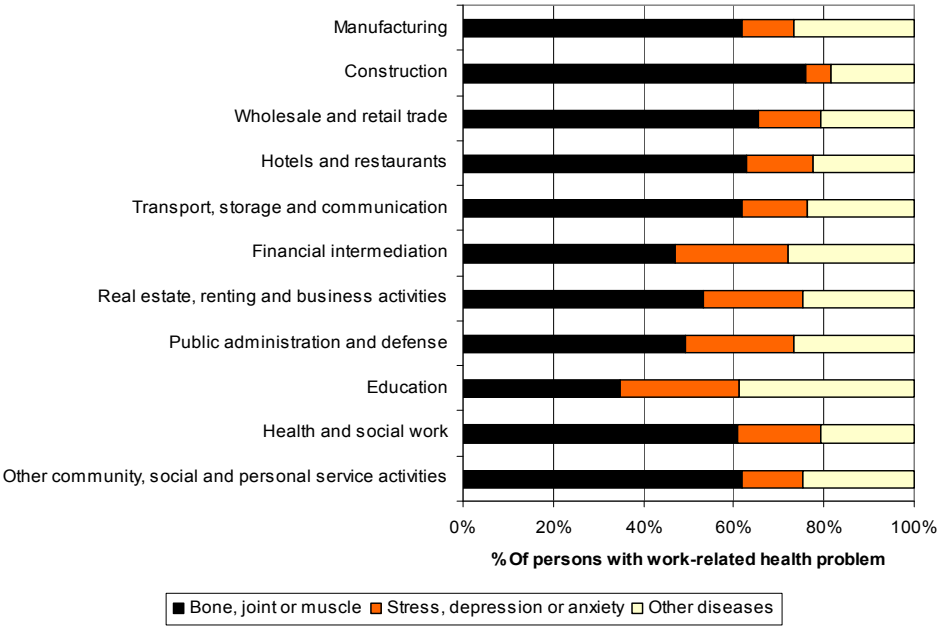

Figure 6.12 Contribution of 'bone, joint or muscle problems' and 'stress, depression or anxiety' to work-related health problems caused or made worse by their main job in the past 12 months in different sectors in the EU27*. **FR not included. One of the categories below publication limit for Agriculture and hunting, Fishing, Mining and quarrying, Electricity gas and water supply, Private households with employed persons, Extraterritorial organizations and bodies.*

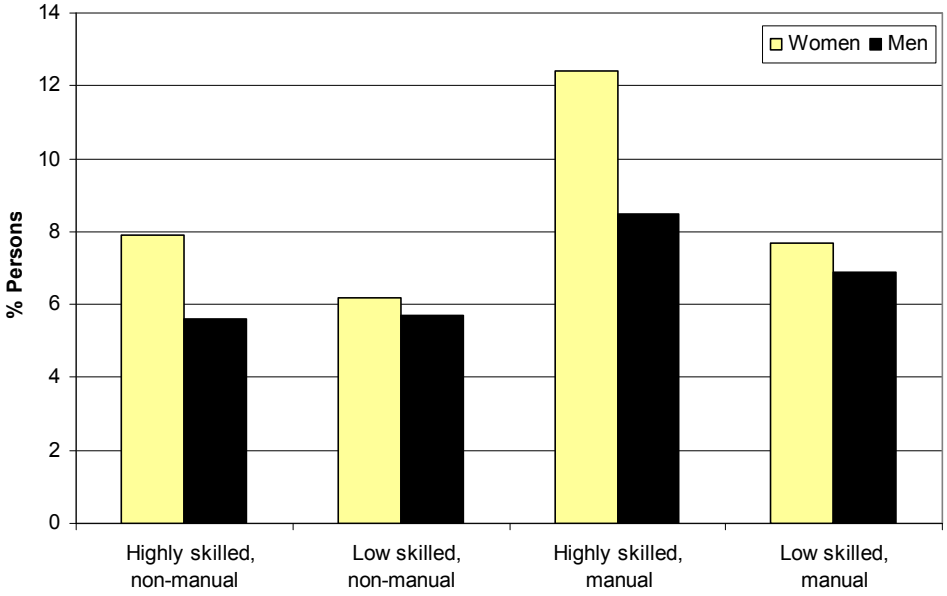

Figure 6.13 The occurrence of work-related health problems caused or made worse in their main job in the past 12 months in the EU27* by occupation
**FR not included Sample size is below publication limit for Army*

6.3 Work-related health problems related to demographic and work characteristics – univariate and multivariate analyses

In chapter 6.1 an overview was presented of the occurrence of work-related health problems in the EU27, in different countries and in various subgroups of workers. Descriptive analyses were used to present these figures. To analyse differences in the occurrence of accidents between subgroups of workers logistic regression analyses were carried out. For a further explanation of this methodological approach we refer to Annex C. In the next part the results are presented of these analyses. As explained in 6.1.4, persons not working at the time of the interview and persons reporting work-related health problems caused or made worse by another job than their main job, were excluded from the analyses.

First variables were checked for collinearity. Based on the high correlations between the variables indicating working hours per week and full-time/part-time, working hours per week was not included in the multivariate analyses. The variables evening work, night work, Saturday work and Sunday work were also highly correlated. Based on these high correlations and preliminary analyses showing the separate variables were in a similar way related to work-related health problems, only the variable atypical working hours was included in the multivariate analyses. The variable atypical working hours is a combination of the variables evening work, night work, Saturday work, and Sunday work.

In all analyses the occurrence of one or more work-related health problems acted as the dependent variable, while age, sex, country and work characteristics acted as the independent variables. First univariate analyses were carried out, in which all independent variables were analysed separately. Subsequently, multivariate analysis was per-

formed, in which all independent variables were combined in one model (see Annex C). The UK could not be included in this step of the analysis, since data on two work characteristics were not available (shift work, variables on atypical working hours).

Table 6.6 shows the odds ratio's of different categories of the independent variables. Values less than one imply a lower likelihood of a work-related health problem and values greater than one imply a higher likelihood, when compared to the reference value. If no reference value is indicated in the table, the mean of the other categories served as the reference value. The table shows that the findings in the univariate and multivariate analyses were relatively similar for many variables. Women and older workers were more likely to report a work-related health problem, also after adjustment for other demographic and work-related variables in the multivariate analyses. Manual workers were more likely to report a work-related health problem than non-manual workers, in particular highly skilled manual workers. Furthermore, shift work and atypical work increased the likelihood of a work-related health problem, whereas those with a firm size smaller than 10 persons, a shorter time since started to work, part-time employment, and a temporary contract had a reduced likelihood of a work-related health problem.

The likelihood of a work-related health problem in different sectors could partly be explained by demographic and work-related variables. Workers in the sector 'Agriculture, hunting and forestry' had an increased likelihood of a work-related health problem in the univariate analysis (OR 1.91). After adjustment of demographic variables (OR 1.60) and adjustment for demographic and work variables (OR 1.06), the odds ratio strongly decreased. This implies that the increased likelihood of health problems in this sector could partly be explained by demographic variables and to an important extent by (less favourable) work-related factors. This was also found for the sector 'Mining and quarrying'. The reverse was found for the sectors 'Financial intermediation' and 'Real estate, renting and business activities'. After adjustment for the work-related factors, the reduced likelihood of work-related health problems found in the univariate analyses no longer existed.

The likelihood of a work-related health problem in the sectors 'Manufacturing' and 'Electricity, gas and water supply' was not different from the other sectors in the univariate analyses. However, after demographic and work-related characteristics were taken into account in the multivariate analyses. The likelihood in the sectors 'Manufacturing' and 'Electricity, gas and water supply' was decreased and appeared to be lower than other sectors, whereas the likelihood in the sector 'Construction' was increased and appeared to be higher than other sectors.

Finally, in several sectors adjustment for demographic and work-related variables barely influenced the likelihood of a work-related health problem. This was also found for the sectors 'Health and social work' and 'Education'. Hence, the increased likelihood of a work-related health problem in these two sectors could not fully be explained by the demographic or work-related characteristics assessed in this study.

Shift work and atypical working hours were related. As a consequence, the strength of their association with work-related health problems was reduced when they were both taken into account in the multivariate analysis. When only shift work was included in the analysis, the odds ratio of work-related health problems was 1.37 (1.31-1.43). When only atypical working hours were taken into account in the multivariate analysis,

the odds ratio of work-related health problems for sometimes atypical work was 1.29 (1.23-1.35) and usually atypical work 1.46 (1.39-1.52).

In Annex G (Table L) the relation between demographic and work characteristics and work-related health problems in the past 12 months in the EU27 including France is presented.

Table 6.6 Contribution of demographic and work characteristics to the likelihood of a work-related health problem caused or made worse by the main job in the past 12 months in the EU27* (Odds Ratio's and Confidence Intervals)

	Univariate analyses		Multivariate analyses	
	OR	CI	OR	CI
Gender				
Men	ref			
Women	1.14	1.11-1.17	1.42	1.36-1.49
Age				
15-24 jr	0.41	0.39-0.43	0.52	0.48-0.56
25-34 jr	0.79	0.76-0.81	0.80	0.77-0.84
35-44 jr	1.19	1.16-1.22	1.12	1.08-1.16
45-54 jr	1.60	1.56-1.65	1.40	1.35-1.45
55-64 jr	1.62	1.57-1.68	1.54	1.47-1.61
Country[1]				
BE	1.62	1.52-1.74	1.69	1.48-1.93
BG	0.55	0.50-0.60	1.42	1.36-1.49
CZ	1.21	1.15-1.28	1.16	1.09-1.23
DK	1.71	1.61-1.81	1.96	1.83-2.09
DE	1.10	1.05-1.16	1.11	1.04-1.17
EE	1.04	0.95-1.14	1.01	0.92-1.11
IE	0.33	0.31-0.36	0.40	0.33-0.47
EL	0.86	0.81-0.91	0.75	0.70-0.82
ES	0.73	0.69-0.77	0.83	0.77-0.89
FR	*	*	*	*
IT	1.23	1.17-1.28	1.22	1.16-1.28
CY	1.25	1.12-1.39	1.20	1.05-1.37
LV	0.41	0.32-0.54	0.35	0.26-0.48
LT	0.46	0.40-0.54	0.43	0.37-0.52
LU	0.38	0.33-0.44	0.42	0.36-0.49
HU	0.65	0.60-0.69	0.59	0.54-0.64
MT	0.83	0.70-0.98	0.75	0.62-0.92
NL	1.21	1.16-1.26	1.50	1.42-1.58
AT	2.16	2.03-2.30	2.24	2.09-2.41
PL	3.24	3.10-3.38	2.75	2.59-2.91
PT	1.07	0.97-1.17	0.99	0.89-1.11
RO	0.64	0.60-0.69	0.52	0.47-0.57
SI	1.43	1.30-1.56	1.34	1.21-1.49
SK	0.62	0.57-0.68	0.53	0.48-0.59
FI	4.60	4.40-4.81	4.72	4.48-4.97
SE	2.56	2.47-2.66	2.77	2.65-2.89
UK	0.62	0.59-0.65	[2]	
Professional status				
Employee	ref			
Self employed	1.22	1.18-1.27	[2]	
Sector				
Agriculture, hunting and forestry	1.91	1.78-2.04	1.06	0.93-1.21
Fishing	u	u	u	u
Mining and quarrying	1.94	1.63-2.32	1.35	1.11-1.64

	Univariate analyses		Multivariate analyses	
	OR	CI	OR	CI
Manufacturing	1.02	0.96-1.09	0.91	0.85-0.98
Electricity, gas and water supply	0.90	0.77-1.05	0.73	0.61-0.88
Construction	0.99	0.92-1.06	1.14	1.04-1.25
Wholesale retail trade, repair	0.81	0.76-0.86	0.96	0.88-1.04
Hotels and restaurants	0.78	0.71-0.85	1.10	0.97-1.24
Transport/storage/communication	1.15	1.07-1.24	1.11	1.01-1.21
Financial intermediation	0.83	0.75-0.91	1.04	0.92-1.18
Real estate, renting and business activities	0.78	0.73-0.84	0.94	0.85-1.03
Public administration and defense	1.04	0.97-1.12	1.06	0.97-1.16
Education	1.20	1.12-1.29	1.20	1.10-1.30
Health and social work	1.37	1.28-1.46	1.23	1.13-1.33
Other community activities	0.95	0.88-1.04	0.98	0.99-1.10
Private households with employed persons	0.48	0.38-0.61	0.57	0.43-0.76
Extra-territorial organizations and bodies	u	u	u	u
Occupation				
Highly skilled non manual	0.95	0.89-1.00	0.83	0.78-0.89
Low skilled, non manual	0.85	0.80-0.90	0.85	0.79-0.91
Highly skilled, manual	1.34	1.26-1.42	1.33	1.23-1.43
Low skilled, manual	1.02	0.96-1.09	1.13	1.06-1.21
Army	u	u	u	u
Size firm				
> 10 persons	ref			
10 persons or less	0.81	0.78-0.84	0.85	0.81-0.90
Time since started work				
60 months or more	ref			
<12 months	0.41	0.38-0.43	0.50	0.46-0.54
12-24 months	0.58	0.55-0.62	0.74	0.69-0.80
24-60 months	0.65	0.62-0.68	0.81	0.77-0.86
Full-time/Part-time				
Full time	ref			
Part time	0.77	0.74-0.80	0.77	0.73-0.82
Type of contract				
Permanent	ref			
Temporary	0.64	0.60-0.67	0.92	0.85-0.99
Shift work				
No shift work	Ref			
Shift work	1.49	1.43-1.55	1.19	1.13-1.25
Atypical working hours				
Never	ref			
Sometimes	1.45	1.39-1.51	1.24	1.18-1.31
Usually	1.42	1.37-1.47	1.35	1.29-1.42
Evening work				
Never	Ref			
Sometimes	1.50	1.44-1.56		
Usually	1.40	1.35-1.46		
Night work				
Never	Ref			
Sometimes	1.60	1.28-1.43		
Usually	1.35	1.28-1.43		
Saturday work				
Never	Ref			
Sometimes	1.42	1.36-1.48		
Usually	1.35	1.30-1.40		

	Univariate analyses		Multivariate analyses	
	OR	CI	OR	CI
Sunday work				
Never	Ref			
Sometimes	1.46	1.39-1.52		
Usually	1.49	1.43-1.55		

** FR not included*

[1] Only EU27 countries are included in the present analysis. When HR was included, the following was found: univariate analysis OR 0.78 (0.68-0.90), multivariate analysis OR 0.70 (0.58-0.83). When NO was included, the following was found: univariate analysis OR 1.43 (1.34-1.53), multivariate analysis OR 2.25 (2.02-2.50)

[2] Dropped as a result of missing data

( ): limited reliability due to small sample size, u: not available or sample size below publication limit

6.4 Discussion and conclusion

In the EU27, 8.6% of the persons aged 15 to 64 years that is currently working or has been working previously, reported one or more health problem caused or made worse by work in the past 12 months. This corresponds to approximately 23 million workers. 'Bone, joint or muscle problems' and 'Stress, depression or anxiety' were most frequently described as the most serious work-related health problem. Work-related health problems resulted in sick leave of one day or more in the past 12 months in 62% of the persons with a work-related health problem. Sick leave of one month or more was reported by 27%. Considerable limitations in day to day activities were experienced by 22% of the persons with a work-related health problem. The number of work-related health problems might be underestimated as a result of the use of proxies.

The occurrence of work-related health problems was more likely in women, older workers, manual workers, and in those working in shifts, with atypical working hours, part-time employment, a permanent contract, a longer time since started to work, and a firm larger than 10 persons. Important differences in the likelihood of work-related health problems were found among sectors. In some sectors, the increased or decreased likelihood of health problems could (partly) be explained by demographic and work-related characteristics.

Differences between Member States are large. The multivariate analyses showed that these differences could not be explained by differences in demographic characteristics or the work characteristics, as known from the Labour Force Survey. Interpretation of these differences is difficult. Differences between Member States could be attributed to several factors, such as culture, policy, awareness, wording of the questionnaires and use of proxies. Since, most of these factors are unknown we cannot draw conclusions on differences between countries.

7 Results on exposure at work adversely affecting mental well-being and physical health

This chapter gives an overview of the results on exposure at work to factors that adversely affected mental well-being and physical health in the past 12 months, as studied in the LFS 2007 ad hoc module. Figures refer to persons aged 15 to 64 years, who were working in the reference week. The proposed questionnaire is included in Annex A. For an explanation of the codes and classifications used, we refer to annex B. Methodological notes are given in Annex C.

7.1 Quality assessment

The data of the LFS ad hoc module 2007 collected in 29 participating countries could be influenced by the wording of the questionnaire and by the use of proxies (also see Chapter 4). Not only country differences could be influenced by these factors, but also the overall EU27 figures may be affected. Wording differences in the questions on exposures at work were studied in the wording analysis presented in Chapter 4. Based on the wording analysis, MT and SI could not be included in the statistical analyses on the *type* of exposure affecting health. However, in the wording evaluation we did not find strong indications of an underestimation or an overestimation of the EU27 figures on the *occurrence* of exposure.

The use of proxies and wording differences may have influenced the EU27 figures. The use of proxies may lead to biased results, since proxies may represent a specific group of users. This was not investigated further. Also, proxies may not be aware of adverse exposure at work of another person of the household. Therefore, an underestimation of the percentage of workers experiencing exposure affecting mental well-being or physical health may occur. The comparison of the occurrence of exposure between proxies and direct participants showed that proxies did not report exposure affecting physical health less often than direct participants (39.9% vs. 39.2% - not weighted results). However, proxies did report exposure affecting mental well-being less often than direct participants (23.0% vs. 27.6% - not weighted results)[11]. This may be an indication of an underestimation of the occurrence of exposure affecting mental well-being.

7.2 Occurrence of exposure at work affecting mental well-being and physical health

By means of descriptive analysis the occurrence of harmful exposure will be presented by country, by demographic characteristics, and by work characteristics.

7.2.1 Exposure at work in the EU27 and the participating countries

Table 7.1 presents the occurrence of exposure to factors adversely affecting mental well-being in the past 12 months in the EU27, the EU15, and for every country separately, including Norway and Croatia. In the EU27, 27.9% of the workers reported exposure affecting mental well-being, which corresponded to 55.6 million workers. The occurrence of this exposure ranged from 0.9% in Latvia and 6.0% in Luxembourg to

[11] The analysis was based on data on proxies in the core LFS. In two countries (BE, AT), proxies answered questions of the core LFS, but not of the ad hoc module. As a consequence, the influence of proxies on the resulting data might be underestimated.

49.0% in France, and 63.3% in The Netherlands. Among those reporting exposure affecting mental well-being in the EU27, exposure to 'time pressure or overload of work' was most often selected as the main factor (82.5%). 'Harassment or bullying' was reported by 9.7% of the workers in the EU27 as the main factor, and 'violence or treat of violence' by 7.8% (Figure 7.1). In all countries, except for The Netherlands, exposure to factors affecting physical health was more often reported than exposure to factors affecting mental well-being (Figure 7.2). In the EU27, 40.7% of the workers reported exposure affecting physical health, which corresponds to 81.2 million persons (Table 7.2). The occurrence of this exposure ranged from 7.3% in Luxembourg to 70.0% in France. In the EU27, 40.9% of the workers reported exposure to 'difficult work postures, work movements or handling of heavy loads' as the main factor affecting physical health. Exposure to the 'risk of an accident' was described by 24.8% of the workers as the main factor, exposure to 'chemicals, dusts, fumes, smoke, or gases' by 20.8%, and exposure to 'noise or vibration' by 13.6% (Figure 7.3).

Table 7.1 Exposure at work in the past 12 months affecting mental well-being in workers in the EU27, EU15, and participating countries including HR and NO

	Exposure affecting mental well-being	Main factor		
		Harassment or bullying	Violence or treat of violence	Time pressure or overload of work
	% yes	% of workers exposed	% of workers exposed	% of workers exposed
EU27	27.9	9.7	7.8	82.5
EU15	30.1	10.5	8.2	81.3
BE	14.6	14.0	11.1	75.0
BG	12.8	(3.0)	3.6	93.4
CZ	14.5	1.9	9.2	89.0
DK	21.3	6.5	13.9	79.7
DE	15.8	6.3	2.4	91.4
EE	17.4	9.3	5.4	85.3
IE	13.3	13.0	14.5	72.5
EL	14.9	5.2	4.5	90.3
ES	25.6	7.4	11.0	81.7
FR	49.0	19.1	6.8	74.1
IT	17.7	17.9	4.9	77.3
CY	43.1	37.7	1.1	61.3
LV	0.9	u	U	u
LT	19.2	8.5	9.8	81.7
LU	6.0	29.2	U	68.2
HU	14.3	7.3	4.0	88.7
MT	27.8	[a]	[a]	[a]
NL	63.3	2.7	8.8	88.5
AT	32.5	7.2	2.4	90.4
PL	25.0	2.6	4.7	92.7
PT	18.9	5.6	12.6	81.8
RO	18.3	7.1	7.5	85.4
SI	40.2	[a]	[a]	[a]
SK	13.7	3.3	5.9	90.8
FI	40.3	6.0	12.8	81.2
SE	40.2	2.5	6.0	91.5
UK	38.0	7.7	12.2	80.1
HR	15.7	22.7	(8.5)	68.9
NO	10.1	6.5	17.3	76.2

(): limited reliability due to small sample size, u: not available or sample size below publication limit

[a]: MT and SI not shown, since the main factor adversely affecting mental well-being was not assessed

For the questions on exposure to factors adversely affecting mental well-being and physical health (c221-c222), the percentage per response category is provided in Annex H (Table A and B).

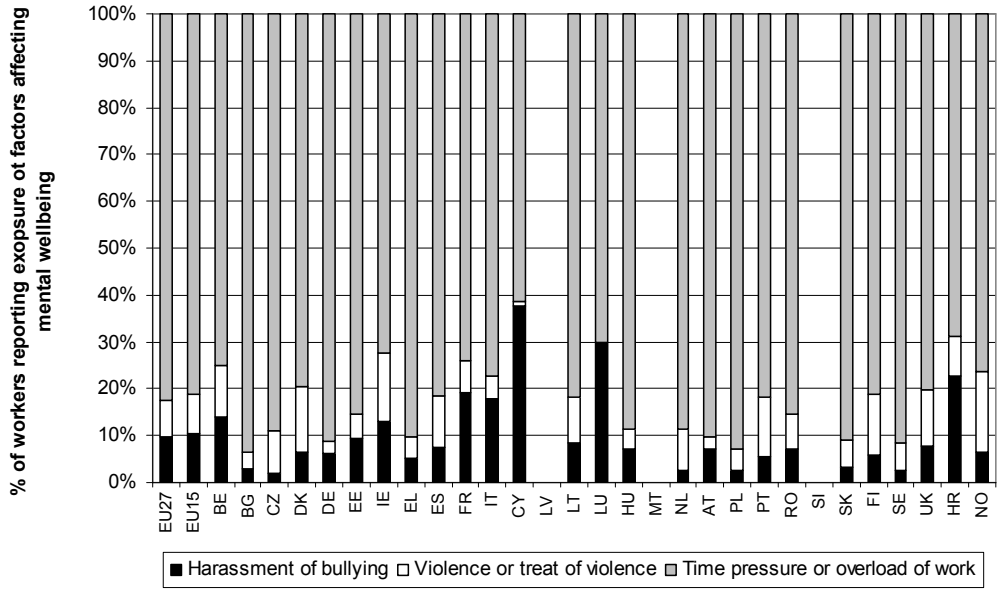

Figure 7.1 Type of exposure at work in the past 12 months affecting mental well-being in persons in the EU27, EU15, and participating countries including HR and NO*

** LV not shown, since sample size below publication limit. MT and SI not shown since main factor adversely affecting mental well-being was not assessed.*

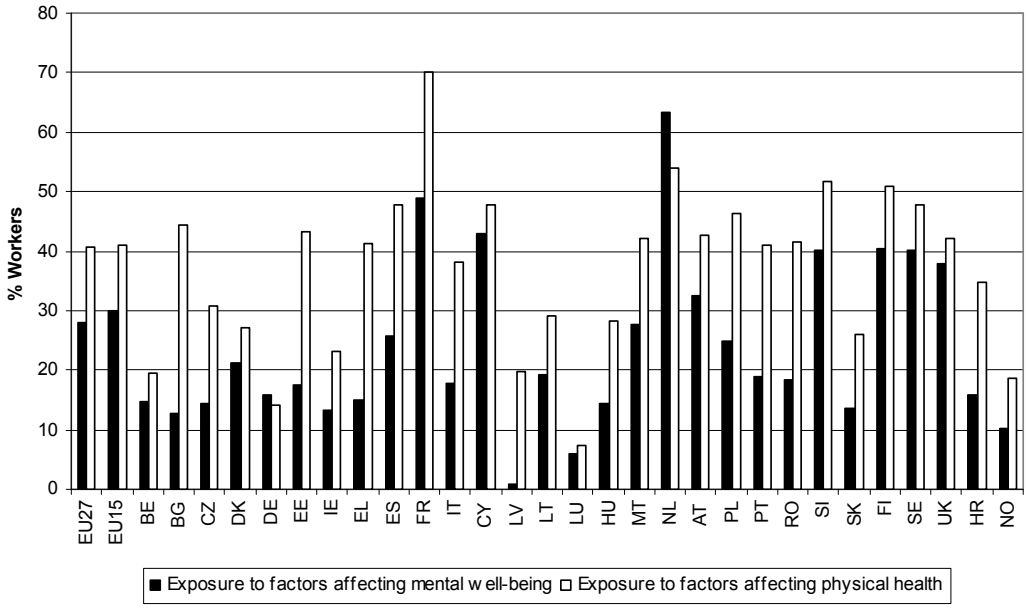

Figure 7.2 Exposure at work in the past 12 months in persons in the EU27, EU15, and participating countries including HR and NO

Table 7.2 Exposure at work in the past 12 months affecting physical health in persons in the EU27, EU15, and participating countries including HR and NO

	Exposure affecting physical health	Main factor			
		Chemicals, dusts, fumes, smoke or gases	Noise or vibration	Difficult work postures, work movements or handling of heavy loads	Risk of accident
	% yes	% of workers exposed	% of workers exposed	% of workers exposed	% of workers exposed
EU27	40.7	20.8	13.6	40.9	24.8
EU15	41.0	21.3	12.9	41.8	24.1
BE	19.4	28.6	20.3	40.1	11.1
BG	44.5	20.9	20.6	26.8	31.8
CZ	30.8	19.9	16.7	29.2	34.2
DK	27.1	12.1	11.1	53.2	23.6
DE	14.0	19.5	20.8	55.3	4.4
EE	43.3	24.2	19.2	36.6	20.1
IE	23.1	39.8	12.2	34.9	13.2
EL	41.4	29.0	7.3	38.2	25.6
ES	47.8	17.1	11.1	35.3	36.6
FR	70.0	21.7	11.5	43.9	22.8
IT	38.3	21.0	11.9	30.1	37.0
CY	47.8	17.2	6.6	39.5	36.8
LV	19.8	28.3	16.9	23.8	31.0
LT	29.0	24.9	24.8	27.1	23.2
LU	7.3	34.4	10.3	47.3	8.0
HU	28.3	20.5	16.0	28.6	35.0
MT	42.1	[a]	[a]	[a]	[a]
NL	54.0	19.0[b]	15.4[b]	65.6[b]	0[b]
AT	42.8	35.9[b]	18.4[b]	45.7[b]	0[b]
PL	46.3	20.1	17.8	36.4	25.7
PT	40.9	25.1	11.2	35.9	27.8
RO	41.6	13.0	11.5	52.7	22.8
SI	51.8	[a]	[a]	[a]	[a]
SK	26.1	19.4	13.9	22.5	44.2
FI	50.8	21.9	14.4	48.5	15.3
SE	47.8	15.7	24.7	45.1	14.6
UK	42.2	22.5	10.9	36.8	29.9
HR	34.9	42.6	19.0	21.7	16.8
NO	18.6	12.6	7.7	66.3	13.4

[a]: MT and SI not shown since main factor adversely affecting physical health was not assessed.

[b]: NL and AT did not assess the risk of an accident

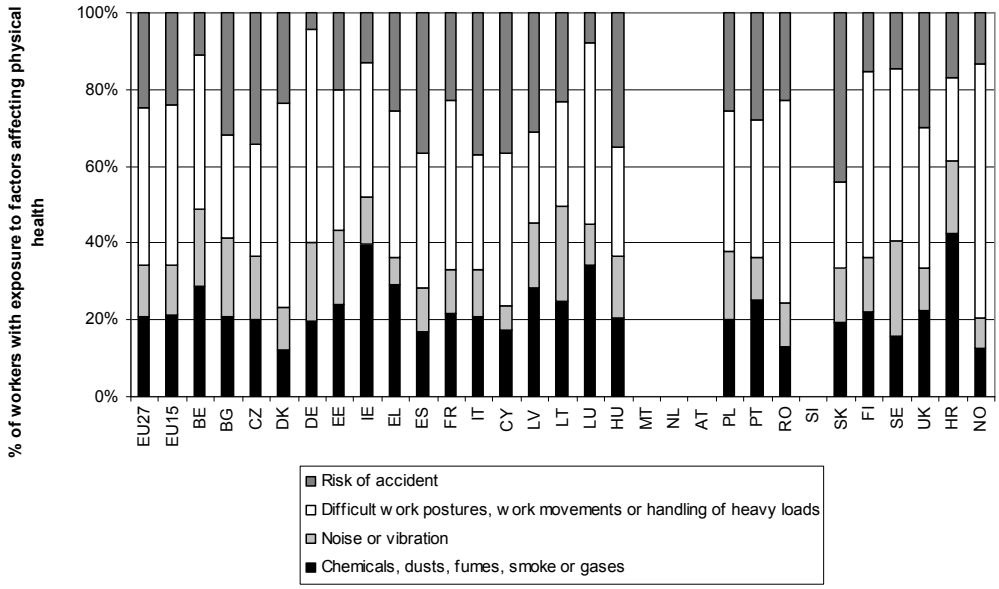

Figure 7.3 Type of exposure at work in the past 12 months affecting physical health in persons in the EU27, EU15, and participating countries including HR and NO*
** MT and SI not shown since main factor adversely affecting physical health was not assessed. NL and AT not shown since the risk of an accident was not assessed.*

7.2.2 Exposure at work in the EU27 by demographic characteristics

Table 7.3 shows the occurrence of exposure at work adversely affecting mental well-being and physical health in relation to the demographic characteristics. Exposure affecting mental well-being was reported about as frequent by men as by women (28.1% vs. 27.6%), but men substantially more often reported exposure affecting physical health than women (47.5% vs. 32.4%). Exposure affecting mental well-being gradually increased with age until the age of 45-54 years, and slightly decreased thereafter (Figure 7.4). In contrast, exposure affecting physical health was relatively similar across different age groups, though men aged 55-64 years reported less exposure (Figure 7.5). Furthermore, high educated workers most often reported exposure affecting mental well-being, while low educated workers most often reported exposure affecting physical health.

Table 7.4 provides insight in the type of exposure identified as the main factor affecting mental well-being in relation to demographic characteristics. Men more often reported 'time pressure or overload of work' as the main factor affecting mental well-being than women (85.0% vs. 79.2%). 'Harassment or bullying' was more often described by women than by men (12.4% vs. 7.6%) (Figure 7.6). Besides, 'harassment or bullying' and 'violence or treat of violence' was more often described among workers aged 15-24 years than among older workers.

In Table 7.5 the type of exposure identified as the main factor affecting physical health is presented in relation to demographic characteristics. Women more frequently identified exposure to 'difficult work postures, work movements or handling of heavy loads' as the main factor than men (54.9% vs. 33.0%), whereas men especially more often experienced exposure to the risk of an accident than women (30.5% vs. 14.5%) (Figure 7.7).

In Annex H (Table C), the demographic characteristics of the workers aged 15 to 64 years in the EU27 are described in more detail.

Table 7.3 Exposure at work in the past 12 months affecting mental well-being or physical health in persons in the EU27 by demographic characteristics

		Exposure affecting mental well-being	Exposure affecting physical health
		% yes	% yes
	EU27	27.9	40.7
Sex			
Men		28.1	47.5
Women		27.6	32.4
Age			
Men	15-24	17.1	47.0
	25-34	26.8	48.0
	35-44	31.1	49.0
	45-54	30.9	47.9
	55-64	27.4	42.7
Women	15-24	19.2	31.1
	25-34	27.2	31.3
	35-44	28.7	32.8
	45-54	30.4	33.8
	55-64	27.1	31.4
Total	15-24	18.1	39.9
	25-34	27.0	40.5
	35-44	30.0	41.7
	45-54	30.7	41.4
	55-64	27.2	38.0
Education			
Men	Low	22.6	59.2
	Intermediate	26.9	50.5
	High	35.9	29.5
Women	Low	20.7	40.4
	Intermediate	25.2	31.6
	High	36.6	28.2
Total	Low	21.8	51.5
	Intermediate	26.2	42.1
	High	36.3	28.9
Marital status			
Men	Married	29.6	47.5
	Single	26.0	47.5
Women	Married	26.4	31.6
	Single	29.2	33.3
Total	Married	28.2	40.4
	Single	27.5	41.0

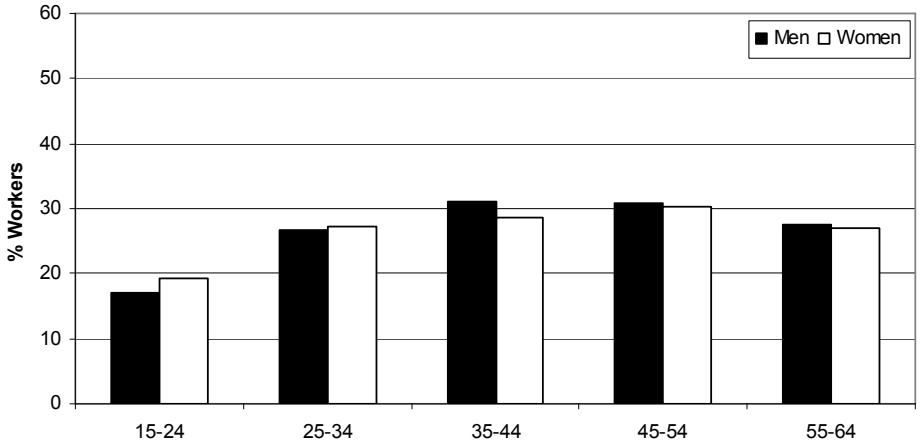

Figure 7.4 Exposure at work in the past 12 months affecting mental well-being in persons in the EU27

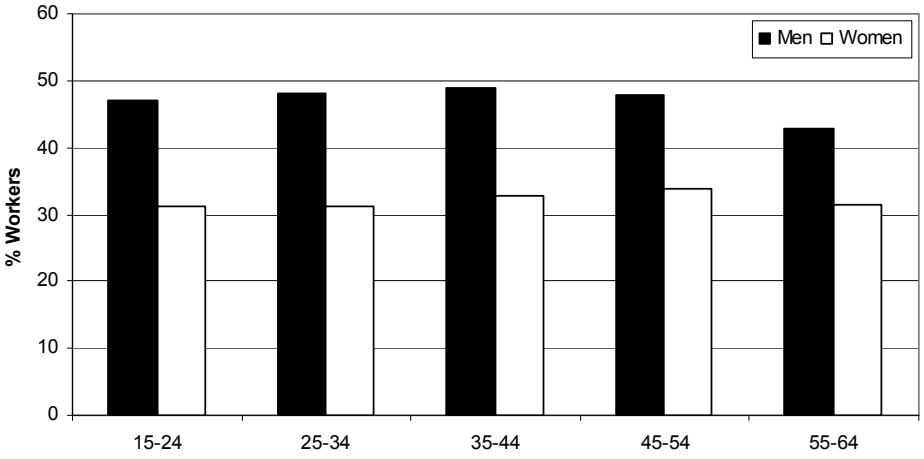

Figure 7.5 Exposure at work in the past 12 months affecting physical health in persons in the EU27

Table 7.4 Main factor at work in the past 12 months affecting mental well-being in persons in the EU27 by demographic characteristics*

		Exposure affecting mental well-being	Main factor		
			Harassment or bullying	Violence or treat of violence	Time pressure or overload of work
			% of workers exposed	% of workers exposed	% of workers exposed
		27.9	9.7	7.8	82.5
Sex					
Men		28.1	7.6	7.4	85.0
Women		27.6	12.4	8.4	79.2
Age					
Men	15-24	17.1	8.9	10.4	80.7
	25-34	26.8	7.3	8.4	84.3
	35-44	31.1	7.5	7.2	85.3
	45-54	30.9	7.5	6.4	86.0
	55-64	27.4	7.6	6.5	85.9
Women	15-24	19.2	15.9	12.0	72.2
	25-34	27.2	12.2	9.0	78.8
	35-44	28.7	11.8	8.0	80.2
	45-54	30.4	12.1	7.2	80.7
	55-64	27.1	13.2	8.7	78.1
Total	15-24	18.1	12.2	11.2	76.6
	25-34	27.0	9.5	8.6	81.8
	35-44	30.0	9.3	7.6	83.1
	45-54	30.7	9.6	6.8	83.6
	55-64	27.2	9.9	7.4	82.7
Education					
Men	Low	22.6	9.9	7.4	82.6
	Intermediate	26.9	7.2	8.6	84.2
	High	35.9	6.6	5.4	88.0
Women	Low	20.7	14.8	7.5	77.7
	Intermediate	25.2	12.5	8.7	78.8
	High	36.6	11.4	8.3	80.3
Total	Low	21.8	11.8	7.5	80.7
	Intermediate	26.2	9.5	8.7	81.9
	High	36.3	9.0	6.8	84.1
Marital status					
Men	Married	29.6	6.8	6.9	86.2
	Single	26.0	8.7	8.1	83.2
Women	Married	26.4	11.2	7.7	81.1
	Single	29.2	13.9	9.3	76.9
Total	Married	28.2	8.7	7.2	84.1
	Single	27.5	11.2	8.7	80.1

* MT and SI not included in EU27 since main factor adversely affecting physical health was not assessed

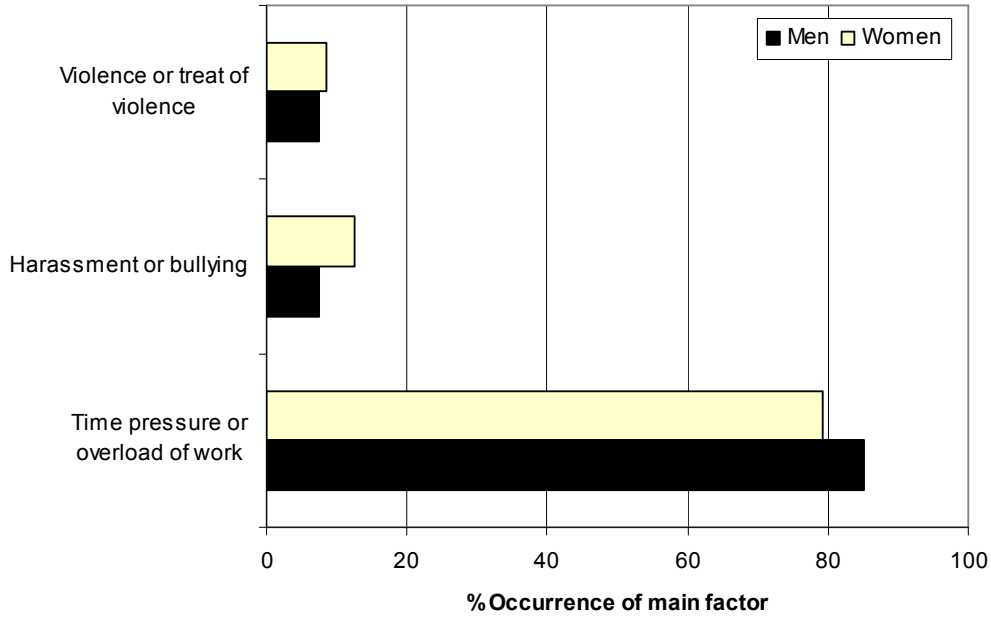

Figure 7.6 Main factor at work in the past 12 months affecting mental well-being in persons in the EU27*

** MT and SI not included in EU27 since main factor adversely affecting mental well-being was not assessed*

Table 7.5 Main factor at work in the past 12 months affecting physical health in persons in the EU27 by demographic characteristics*

		Exposure affecting physical health	Main factor			
			Chemicals, dusts, fumes, smoke or gases	Noise or vibration	Difficult work postures, work move-ments or handling of heavy loads	Risk of acci-dent
			% of workers exposed	% of workers exposed	% of workers exposed	% of workers exposed
		40.7	20.8	13.6	40.9	24.8
Sex						
Men		47.5	22.5	14.0	33.0	30.5
Women		32.4	17.8	12.8	54.9	14.5
Age						
Men	15-24	47.0	22.8	12.2	37.3	27.6
	25-34	48.0	22.8	13.4	32.6	31.3
	35-44	49.0	22.5	13.8	31.8	31.9
	45-54	47.9	22.1	15.2	32.7	30.0
	55-64	42.7	21.9	15.2	34.1	28.8
Women	15-24	31.1	18.9	9.4	57.3	14.5
	25-34	31.3	18.2	13.0	53.0	15.8
	35-44	32.8	17.9	13.4	53.6	15.1
	45-54	33.8	16.7	13.4	56.3	13.7

		Exposure affecting physical health	Main factor			
			Chemicals, dusts, fumes, smoke or gases	Noise or vibration	Difficult work postures, work movements or handling of heavy loads	Risk of accident
			% of workers exposed	% of workers exposed	% of workers exposed	% of workers exposed
		40.7	20.8	13.6	40.9	24.8
	55-64	31.4	18.1	12.3	57.3	12.3
Total	15-24	39.9	21.4	11.2	44.3	23.0
	25-34	40.5	21.2	13.3	39.7	25.9
	35-44	41.7	20.9	13.7	39.5	25.9
	45-54	41.4	20.1	14.5	41.6	23.9
	55-64	38.0	20.6	14.2	42.2	23.1
Education						
Men	Low	59.2	21.7	11.7	34.3	32.3
	Intermediate	50.5	22.9	14.7	33.0	29.4
	High	29.5	22.4	16.2	30.6	30.8
Women	Low	40.4	19.1	9.0	57.8	14.1
	Intermediate	31.6	18.1	12.1	56.6	13.3
	High	28.2	15.8	18.0	48.9	17.4
Total	Low	51.5	20.9	10.8	41.8	26.5
	Intermediate	42.1	21.3	13.8	40.9	24.1
	High	28.9	19.2	17.1	39.4	24.3
Marital status						
Men	Married	47.5	21.9	14.4	31.9	31.8
	Single	47.5	23.3	13.6	34.6	28.5
Women	Married	31.6	17.5	13.0	55.1	14.4
	Single	33.3	18.1	12.5	54.6	14.7
Total	Married	40.4	20.4	13.9	39.9	25.8
	Single	41.0	21.4	13.2	42.0	23.4

* MT and SI not included in EU27 since main factor adversely affecting physical health was not assessed

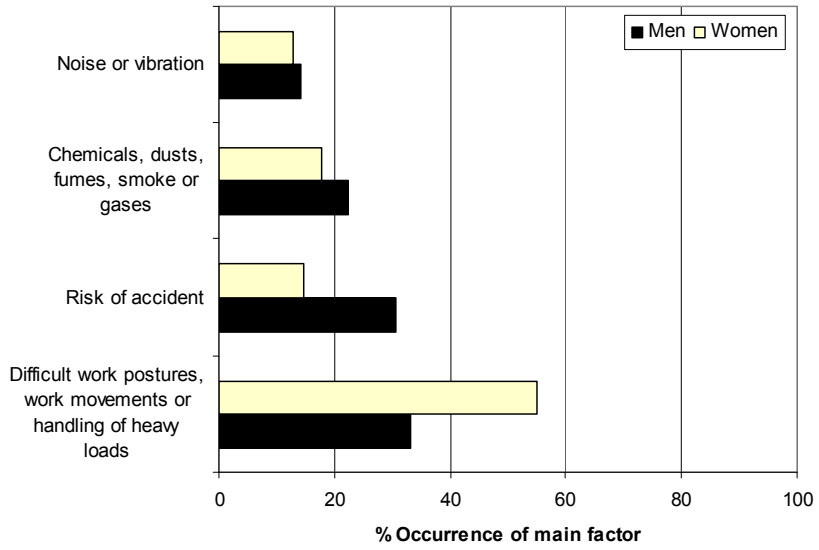

Figure 7.7 Main factor at work in the past 12 months affecting physical health in persons in the EU27*

** MT and SI not included in EU27 since main factor adversely affecting physical health was not assessed*

7.2.3 *Exposure at work in the EU27 by work characteristics*

Table 7.6 presents the occurrence of exposure at work affecting mental well-being and physical health in workers in the EU27 in relation to work characteristics. In some sectors, workers reported exposure affecting physical health substantially more often than exposure affecting mental well-being, i.e. 'Agriculture, hunting and forestry', 'Mining and quarrying', 'Manufacturing', and 'Construction' (Figure 7.8). In other sectors, the reverse was found, with more exposure affecting mental well-being being reported, i.e. 'Financial intermediation', 'Real estate, renting and business activities', 'Public administration and defence' and 'Education'. Besides, in the sectors 'Health and social work' and 'Transport, storage and communication', both exposure affecting mental well-being and exposure affecting physical health were frequently described.

The occurrence of exposure affecting mental well-being ranged from 11.1% of the workers in the sector 'Private households with employed persons' to 40.6% of the workers in the sector 'Health and social work'. Both in men and women, exposure affecting mental well-being was highest in the sector 'Health and social work' (Table 7.6, Figure 7.9). Sectors differed strongly for the percentage of workers reporting exposure affecting physical health. This ranged from 17.6% of the workers in the sector 'Financial intermediation' to 67.9% of the workers in the sector 'Mining and quarrying'. Among men, most exposure was reported in the sectors 'Mining and quarrying', 'Fishing', and 'Construction' (Table 7.6, Figure 7.10).

Exposure affecting mental well-being and physical health differed among occupational groups (Table 7.6, Figure 7.11). Exposure affecting mental well-being was highest among highly skilled non-manual workers, whereas exposure affecting physical health was most often reported by manual workers and workers in the army. Furthermore, both exposure affecting mental well-being and exposure affecting physical health occurred substantially more often in workers with shift work and atypical working hours.

In Annex H (Table D), the work characteristics of the workers aged 15 to 64 years in the EU27 are described in more detail.

Table 7.6 Exposure at work in the past 12 months to factors affecting mental well-being and physical health in persons in the EU27 by work characteristics

		Exposure affecting mental well-being	Exposure affecting physical health
		% yes	% yes
	EU27	27.9	40.7
Professional status			
Men	Self-employed	28.7	48.2
	Employee	28.1	47.3
	Family worker	10.0	44.0
Women	Self-employed	22.2	32.1
	Employee	28.6	32.2
	Family worker	12.1	36.5
Total	Self-employed	26.7	43.3
	Employee	28.3	40.2
	Family worker	11.4	39.0
Economic activity			
Men	Agriculture, hunting and forestry	20.9	57.7
	Fishing	u	70.0
	Mining and quarrying	23.8	73.7
	Manufacturing	24.5	53.0
	Electricity, gas and water supply	25.0	46.7
	Construction	23.9	66.1
	Wholesale retail trade, repair	26.7	44.7
	Hotels and restaurants	29.1	39.7
	Transport, storage and communication	34.1	55.3
	Financial intermediation	32.0	20.2
	Real estate, renting and business activities	32.8	27.2
	Public administration and defense	33.7	37.2
	Education	32.7	29.8
	Health and social work	40.8	41.5
	Other community activities	23.3	39.5
	Private households with employed persons	u	54.8
	Extra-territorial organizations and bodies	u	u
Woman	Agriculture, hunting and forestry	16.1	48.5
	Fishing	u	u
	Mining and quarrying	u	u
	Manufacturing	23.2	37.9
	Electricity, gas and water supply	24.7	19.8
	Construction	18.1	17.9
	Wholesale retail trade, repair	21.9	29.0
	Hotels and restaurants	24.9	37.4
	Transport, storage and communication	30.3	29.3
	Financial intermediation	29.6	15.0
	Real estate, renting and business activities	26.9	22.0
	Public administration and defense	32.4	22.7
	Education	29.5	28.0
	Health and social work	40.6	44.6
	Other community activities	21.6	32.6

		Exposure affecting mental well-being	Exposure affecting physical health
		% yes	% yes
	EU27	27.9	40.7
	Private households with employed persons	10.1	30.2
	Extra-territorial organizations and bodies	u	u
Total	Agriculture, hunting and forestry	19.1	54.2
	Fishing	u	66.6
	Mining and quarrying	23.8	67.9
	Manufacturing	24.1	48.3
	Electricity, gas and water supply	24.9	40.6
	Construction	23.4	62.3
	Wholesale retail trade, repair	24.3	37.0
	Hotels and restaurants	26.7	38.4
	Transport, storage and communication	33.1	48.7
	Financial intermediation	30.8	17.6
	Real estate, renting and business activities	30.1	24.9
	Public administration and defense	33.1	30.5
	Education	30.5	28.5
	Health and social work	40.6	44.0
	Other community activities	22.4	35.7
	Private households with employed persons	11.1	33.2
	Extra-territorial organizations and bodies	u	u
Occupation			
Men	Highly skilled, non-manual	34.8	29.6
	Low skilled, non-manual	28.7	37.6
	Highly skilled, manual	21.9	64.4
	Low skilled, manual	24.1	61.9
	Army	32.0	55.2
Women	Highly skilled, non-manual	34.0	26.3
	Low skilled, non-manual	25.3	30.2
	Highly skilled, manual	19.3	50.2
	Low skilled, manual	19.5	45.7
	Army	u	u
Total	Highly skilled, non-manual	34.4	28.1
	Low skilled, non-manual	26.3	32.5
	Highly skilled, manual	21.5	62.0
	Low skilled, manual	22.5	56.1
	Army	32.6	54.9
Size of firm			
Men	10 persons or less	25.3	48.6
	More than 10 persons	29.8	46.2
Women	10 persons or less	19.8	29.0
	More than 10 persons	32.0	33.7
Total	10 persons or less	22.5	38.6
	More than 10 persons	30.8	40.7
Time since started to work			
Men	<12 months	20.8	46.9
	12-23 months	24.4	46.5
	24-59 months	26.8	47.1
	≥60 months	30.7	47.7

		Exposure affecting mental well-being	Exposure affecting physical health
		% yes	% yes
	EU27	27.9	40.7
Women	<12 months	20.4	29.9
	12-23 months	24.4	30.9
	24-59 months	26.1	31.3
	≥60 months	30.4	33.4
Total	<12 months	20.6	38.9
	12-23 months	24.4	39.3
	24-59 months	26.5	39.9
	≥60 months	30.6	41.5
Full-time/Part-time			
Men	Full-time	28.7	48.1
	Part-time	19.5	37.7
Women	Full-time	29.2	32.7
	Part-time	23.8	31.5
Total	Full-time	28.9	42.3
	Part-time	22.9	32.8
Usual working hours			
Men	1-24	16.5	34.6
	25-39	29.8	48.4
	40	21.5	45.8
	>40	38.1	50.8
Women	1-24	18.9	28.0
	25-39	34.1	36.9
	40	21.4	27.4
	>40	40.4	37.9
Total	1-24	18.4	29.5
	25-39	32.1	42.2
	40	21.4	38.8
	>40	38.7	47.4
Permanency of the job			
Men	Permanent	29.4	46.9
	Temporary	19.7	49.6
Women	Permanent	29.8	31.9
	Temporary	21.8	33.7
Total	Permanent	29.6	39.9
	Temporary	20.7	41.7
Shift work			
Men	Never shift work	26.7	45.3
	Shift work	27.9	57.3
Women	Never shift work	26.2	29.8
	Shift work	32.2	47.4
Total	Never shift work	26.5	38.0
	Shift work	29.8	53.0
Atypical working hours (evening, night, weekend)			
Men	Never atypical	21.0	43.1
	Sometimes atypical	28.9	48.1
	Usually atypical	31.9	50.8
Women	Never atypical	21.4	24.6
	Sometimes atypical	29.0	33.9
	Usually atypical	30.8	42.9
Total	Never atypical	21.2	34.0
	Sometimes atypical	28.9	42.7

		Exposure affecting mental well-being	Exposure affecting physical health
		% yes	% yes
	EU27	27.9	40.7
	Usually atypical	31.4	47.4
Evening work			
Men	Never	22.5	46.0
	Sometimes	32.1	48.0
	Usually	34.5	49.0
Women	Never	22.3	28.6
	Sometimes	32.2	36.8
	Usually	35.7	44.1
Total	Never	22.4	37.7
	Sometimes	32.1	43.8
	Usually	35.0	47.0
Night work			
Men	Never	24.7	45.0
	Sometimes	36.8	56.2
	Usually	34.8	56.3
Women	Never	24.5	30.6
	Sometimes	38.2	47.7
	Usually	39.2	51.0
Total	Never	24.6	38.2
	Sometimes	37.2	53.6
	Usually	36.2	54.7
Saturday work			
Men	Never	23.0	43.3
	Sometimes	29.0	49.5
	Usually	31.7	51.4
Women	Never	22.8	25.7
	Sometimes	29.0	36.1
	Usually	30.4	43.4
Total	Never	22.9	35.0
	Sometimes	29.0	44.6
	Usually	31.1	47.9
Sunday work			
Men	Never	24.0	45.8
	Sometimes	33.4	48.8
	Usually	34.8	52.1
Women	Never	22.9	28.3
	Sometimes	33.6	40.3
	Usually	36.4	49.3
Total	Never	23.5	37.8
	Sometimes	33.5	45.4
	Usually	35.5	50.9

( ): limited reliability due to small sample size, u: not available or sample size below publication limit

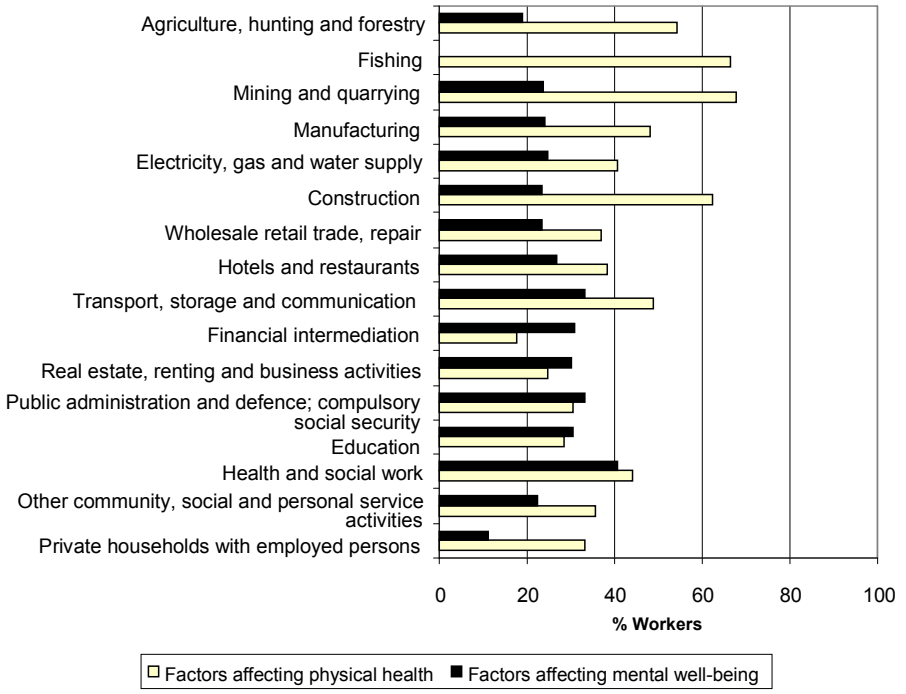

Figure 7.8 Exposure at work in the past 12 months affecting mental well-being and physical health in different sectors in the EU27*

* *The following sectors are not included in this Figure since the sample size is below publication limit: Fishing (women) and Extra-territorial organisations and bodies.*

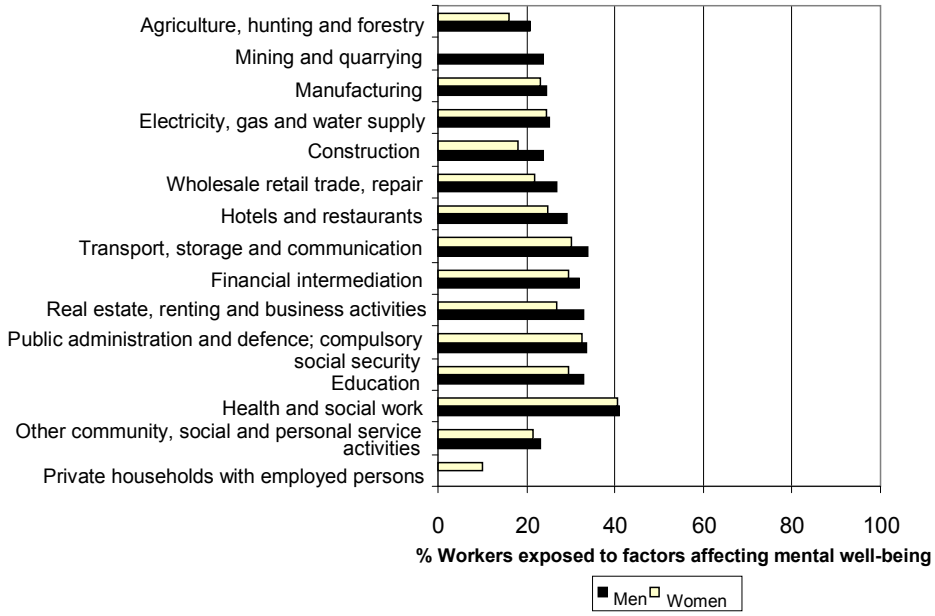

Figure 7.9 Exposure at work in the past 12 month affecting mental well-being in different sectors*

* *The following sectors are not included in this Figure since the sample size is below publication limit: Fishing, Mining and quarrying (women), Private households with employed persons (men), Extra-territorial organisations and bodies.*

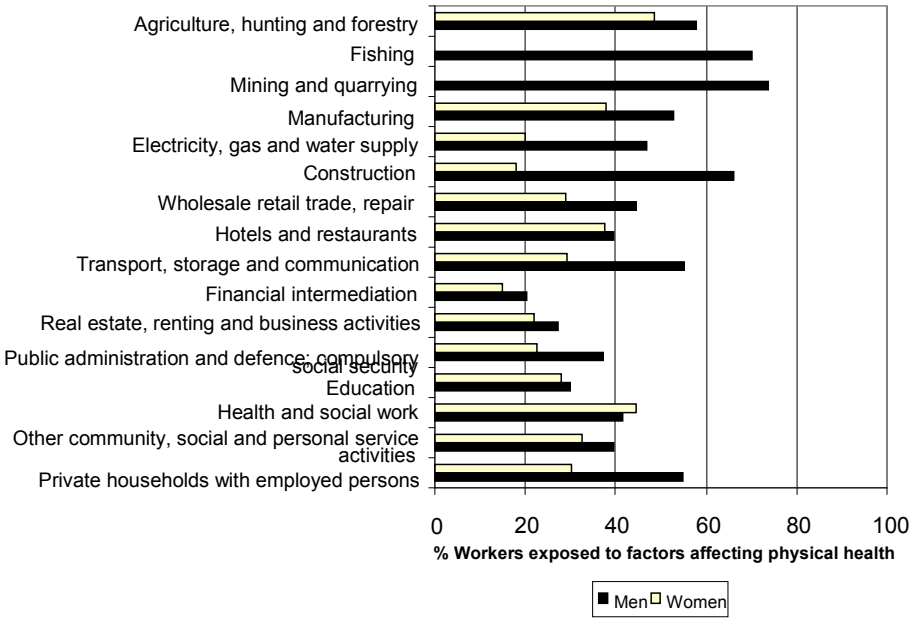

Figure 7.10 Exposure at work in the past 12 month affecting physical health in different sectors*

* *The following sectors are not included in this Figure since the sample size is below publication limit: Fishing (women), Mining and quarrying (women), Extra-territorial organisations and bodies.*

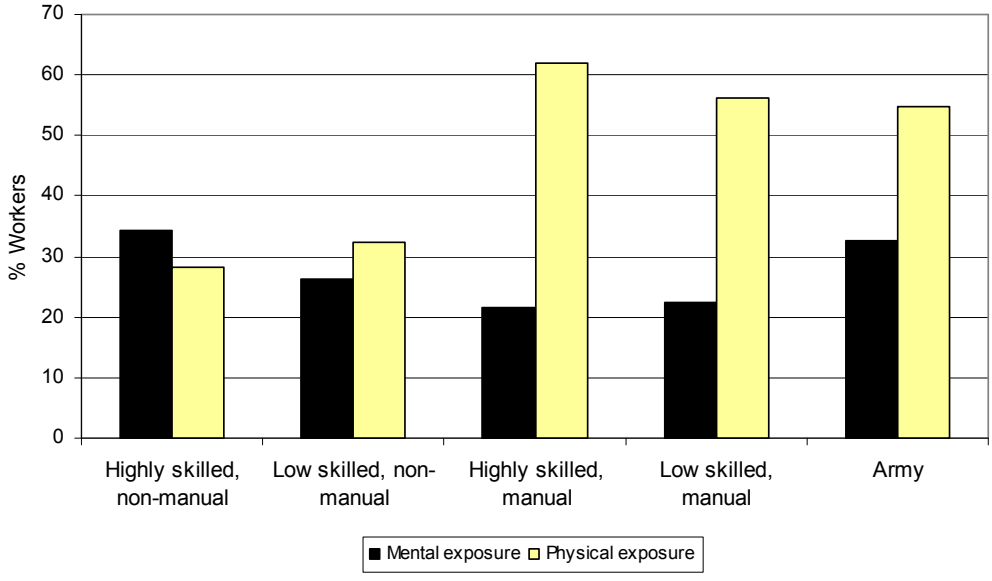

Figure 7.11 Exposure at work in the past 12 months affecting mental well-being and physical health in different occupations

7.3 Exposure at work affecting mental well-being and physical health in relation to demographic and work characteristics – univariate and multivariate analyses

In 7.2 an overview was presented of the occurrence of exposure to factors mental well-being and physical health in the EU27, in different countries, and in various subgroups of workers. Descriptive analyses were used to present these figures. To analyse differences in the occurrence of exposure between subgroups of workers, logistic regression analyses were carried out. Separate models were constructed for exposure affecting mental well-being and exposure affecting physical health. For a further explanation of this methodological approach we refer to Annex C. In the next part, the results of the logistic regression analyses will be presented. The results apply to workers aged 15-64 years in the EU27.

First variables were checked for collinearity. Based on the high correlations between the variables indicating working hours per week and full-time/part-time, working hours per week was not included in the multivariate analyses. The variables evening work, night work, Saturday work, and Sunday work were also highly correlated. Based on these high correlations and preliminary analyses showing the separate variables were in a similar way related to exposure affecting mental well-being and physical health, only the variable atypical working hours was included in the multivariate analyses. The variable atypical working hours is a combination of the variables evening work, night work, Saturday work, and Sunday work.

In all analyses the occurrence of exposure affecting mental well-being or physical health acted as the dependent variable, whereas age, sex, country, and work characteristics acted as the independent variables. First univariate analyses were carried out, in which all independent variables were analysed separately. Subsequently, multivariate analysis was performed, in which all independent variables were combined in one model (see Annex C). The UK could not be included in the multivariate analysis, since data on two work characteristics were not available (shift work, variables on atypical working hours).

The odds ratio was used as a measure of association. For the odds ratio, values less than one imply a lower likelihood of exposure when compared to the reference category, and values greater than one imply a higher likelihood of exposure. If no reference category is indicated in the tables, the mean of the other categories served as the reference category.

7.3.1 Exposure affecting mental well-being - univariate and multivariate analyses

Table 7.7 presents the relation between demographic and work characteristics and exposure affecting mental well-being in univariate and multivariate regression analyses. As previously described, exposure affecting mental well-being included notably ‘time pressure or overload of work’, but also ‘harassment or bullying’, and ‘violence or treat of violence’.

Only a small difference was found between men and women for exposure affecting mental well-being after adjustment for demographic and work characteristics, with women reporting slightly more exposure. Workers aged 35-44 or 45-54 years had an increased likelihood to report exposure, whereas those aged 15-24 years were less likely to report exposure. Furthermore, highly skilled non-manual work, atypical working hours, and shift work increased the likelihood of exposure affecting mental well-being, whereas manual work, a firm size smaller than 10 persons, a shorter time since

started to work, part-time work, and a temporary contract reduced the likelihood of exposure.

Workers in the sectors 'Health and social work', 'Transport, storage and communication', and 'Financial intermediation' were most likely to report exposure affecting mental well-being after adjustment for demographic and work characteristics in multivariate analysis.
Among sectors, differences in the likelihood of adverse exposure as found in the univariate analysis could partly be explained by demographic and work characteristics in the multivariate analysis. Workers in the sector 'Health and social work' had an increased likelihood of exposure in univariate analysis (OR 2.01). The odds ratio decreased after adjustment for the demographic and work characteristics in the multivariate analysis (OR 1.46). This implies that demographic and (less favourable) work characteristics could partly explain that workers in the sector 'Health and social work' reported adverse exposure more often. However, the characteristics assessed in this study could not fully explain the increased likelihood of exposure in this sector. Similar findings were found for the sectors 'Public administration and defence' and 'Education'.

Table 7.7 Contribution of demographic and work characteristics to the likelihood of exposure affecting mental well-being in the past 12 months (Odds Ratio's and Confidence Intervals)

	Univariate analyses		Multivariate analysis	
	OR	CI	OR	CI
Gender				
Men	ref			
Women	0.98	0.96-0.99	1.05	1.02-1.09
Age				
15-24 jr	0.62	0.60-0.64	0.72	0.69-0.75
25-34 jr	1.04	1.02-1.05	1.02	1.00-1.05
35-44 jr	1.20	1.18-1.22	1.15	1.12-1.17
45-54 jr	1.24	1.22-1.26	1.15	1.12-1.18
55-64 jr	1.05	1.03-1.07	1.03	1.00-1.07
Country[1]				
BE	0.65	0.61-0.69	0.66	0.60-0.73
BG	0.55	0.52-0.59	0.56	0.52-0.60
CZ	0.64	0.61-0.67	0.56	0.53-0.59
DK	1.03	0.98-1.08	1.02	0.97-1.08
DE	0.71	0.68-0.74	0.67	0.64-0.70
EE	0.80	0.75-0.85	0.79	0.74-0.84
IE	0.58	0.56-0.60	0.59	0.55-0.64
EL	0.66	0.64-0.69	0.69	0.65-0.73
ES	1.30	1.25-1.35	1.51	1.44-1.58
FR	3.64	3.49-3.80	3.67	3.50-3.85
IT	0.82	0.79-0.85	0.81	0.77-0.84
CY	2.87	2.69-3.06	3.38	3.14-3.63
LV	0.03	0.02-0.07	0.04	0.02-0.08
LT	0.90	0.84-0.96	0.88	0.81-0.95
LU	0.24	0.22-0.27	0.25	0.23-0.28
HU	0.63	0.60-0.66	0.67	0.64-0.71
MT	1.45	1.33-1.58	1.34	1.22-1.48
NL	6.52	6.30-6.73	8.70	8.35-9.07
AT	1.83	1.74-1.92	1.94	1.84-2.05
PL	1.26	1.21-1.31	1.14	1.08-1.20
PT	0.88	0.82-0.94	1.06	0.99-1.15

	Univariate analyses		Multivariate analysis	
	OR	CI	OR	CI
RO	0.85	0.81-0.88	1.04	0.99-1.10
SI	2.54	2.40-2.69	2.27	2.13-2.42
SK	0.60	0.57-0.64	0.52	0.49-0.56
FI	2.55	2.45-2.66	2.59	2.47-2.71
SE	2.54	2.46-2.63	2.83	2.72-2.94
UK	2.32	2.24-2.39		[2]
Professional status				
Employee	ref			
Self employed	0.93	0.90-0.95		[2]
Sector				
Agriculture, hunting and forestry	0.69	0.66-0.73	0.86	0.77-0.96
Fishing	u			
Mining and quarrying	0.92	0.81-1.05	0.96	0.81-1.13
Manufacturing	0.94	0.90-0.97	1.00	0.95-1.05
Electricity, gas and water supply	0.98	0.88-1.09	0.99	0.87-1.12
Construction	0.90	0.86-0.94	1.12	1.05-1.20
Wholesale retail trade, repair	0.95	0.91-0.99	0.94	0.89-1.00
Hotels and restaurants	1.07	1.02-1.13	1.11	1.03-1.20
Trans-port/storage/communication	1.46	1.39-1.53	1.31	1.23-1.40
Financial intermediation	1.32	1.25-1.39	1.29	1.19-1.40
Real estate, renting and business activities	1.27	1.22-1.33	1.12	1.05-1.19
Public administration and defense	1.46	1.40-1.53	1.16	1.09-1.23
Education	1.29	1.24-1.35	0.97	0.91-1.03
Health and social work	2.01	1.93-2.10	1.46	1.38-1.55
Other community activities	0.85	0.81-0.90	0.76	0.70-0.82
Private households with employed persons	0.37	0.32-0.43	0.53	0.45-0.63
Extra-territorial organizations and bodies	u			
Occupation				
Highly skilled non manual	1.41	1.36-1.45	1.38	1.33-1.44
Low skilled, non manual	0.96	0.93-0.99	1.03	0.99-1.08
Highly skilled, manual	0.74	0.71-0.76	0.90	0.86-0.94
Low skilled, manual	0.78	0.75-0.81	0.85	0.81-0.88
Army	1.29	1.16-1.45	0.92	0.80-1.05
Size firm				
>10 persons	ref			
10 persons or less	0.65	0.64-0.67	0.76	0.73-0.79
Time since started work				
≥60 months	ref			
<12 months	0.59	0.57-0.61	0.76	0.72-0.79
12-23 months	0.73	0.71-0.76	0.89	0.85-0.93
24-59 months	0.82	0.80-0.84	0.93	0.90-0.97
Full-time/Part-time				
Full time	ref			
Part time	0.73	0.71-0.75	0.67	0.64-0.69

	Univariate analyses		Multivariate analysis	
	OR	CI	OR	CI
Type of contract				
Permanent	ref			
Temporary	0.62	0.60-0.64	0.86	0.82-0.90
Shift work				
No shift work	ref			
Shift work	1.18	1.15-1.21	1.11	1.07-1.15
Atypical working hours				
Never	ref			
Sometimes	1.52	1.48-1.56	1.64	1.59-1.70
Usually	1.70	1.67-1.74	1.89	1.83-1.96
Evening work				
Never	ref			
Sometimes	1.64	1.60-1.68		
Usually	1.86	1.81-1.91		
Night work				
Never	ref			
Sometimes	1.81	1.75-1.88		
Usually	1.73	1.67-1.80		
Saturday work				
Never	ref			
Sometimes	1.38	1.34-1.41		
Usually	1.52	1.48-1.56		
Sunday work				
Never	ref			
Sometimes	1.64	1.59-1.69		
Usually	1.78	1.73-1.83		

[1] Only EU27 countries are included in the present analysis. When HR was included, the following was found: univariate analysis OR 0.71 (0.65-0.78), multivariate analysis OR 0.69 (0.63-0.76). When NO was included, the following was found: univariate analysis OR 0.44 (0.41-0.47), multivariate analysis OR 0.52 (0.47-0.56).

[2] Dropped as a result of missing data

( ): limited reliability due to small sample size, u: not available or sample size below publication limit

7.3.2 *Exposure affecting physical health- univariate and multivariate analyses*

Table 7.8 presents the relation between demographic and work characteristics and exposure affecting physical health in univariate and multivariate analyses. As previously described, exposure affecting physical health included exposure to 'difficult work postures, work movements or handling of heavy loads', 'risk of an accident', 'chemicals, dusts, fumes smoke or gases', and 'noise or vibration'.

Women were less likely to report exposure affecting physical health than men in univariate and multivariate analysis. A small difference was also found among different age groups. The youngest (15-24 years) and oldest (55-64 year) age groups were less likely to report exposure, whereas workers aged 25-34, 35-44, or 45-54 years were slightly more likely to report exposure. Furthermore, manual work, atypical working hours, and shift work increased the likelihood of exposure affecting physical health, whereas non-manual work, a firm size of 10 persons or less, a shorter time since started to work, and part-time work decreased the likelihood of exposure.

Workers in the sectors 'Mining and quarrying', 'Health and social work', and 'Construction' were most likely to report exposure affecting physical health after adjust-

ment for demographic and work characteristics in multivariate analysis, whereas those working in the sectors 'Financial intermediation' were least likely to report exposure.
Among sectors, differences in the likelihood of adverse exposure as found in the univariate analysis could partly be explained by demographic and work characteristics in the multivariate analysis. Workers in the sectors 'Agriculture, hunting and forestry', 'Fishing', 'Mining and quarrying', and 'Construction' were substantially more likely to report exposure in the univariate analysis. After adjustment for demographic characteristics, and especially after adjustment for work characteristics, the likelihood of exposure in these sectors decreased. This implies that notably (less favourable) work characteristics could partly explain that more adverse exposure was reported by workers in these sectors. However, the characteristics assessed in this study could not fully explain the increased likelihood of exposure in these sectors. Similar findings were found for the sectors 'Manufacturing' and 'Transport, storage, and communication'.
In the sector 'Health and social work', the likelihood of exposure affecting physical health substantially increased after adjustment for demographic and work characteristics in the multivariate analysis. This suggests that characteristics with an unfavourable influence on the occurrence of exposure were less prevalent in this sector. Finally, it should be noted that workers in the sector 'Health and social work' were not only most likely to report exposure to factors affecting mental well-being (Tabel 7.7), but these workers were also more likely to report exposure to factors affecting physical health. To a lesser degree, this was also found for the sector 'Transport, storage and communciation'.

Finally, shift work and atypical working hours were related. As a consequence, the strength of their association with exposure was reduced when they were both taken into account in the multivariate analysis. When only shift work was included in the multivariate analysis, the odds ratio of exposure was 1.99 (1.93-2.05). When only atypical working hours was included in the multivariate analysis, the odds ratio of exposure was 1.59 (1.54-1.64) for 'sometimes atypical working hours' and 1.98 (1.93-2.04) for 'usually atypical working hours'.

Table 7.8 Contribution of demographic and work characteristics to the likelihood of exposure affecting physical health in the past 12 months (Odds Ratio's and Confidence Intervals)

	Univariate analyses		Multivariate analysis	
	OR	CI	OR	CI
Gender				
Men	ref			
Women	0.53	0.52-0.54	0.72	0.70-0.74
Age				
15-24 jr	0.98	0.96-1.01	0.95	0.92-0.98
25-34 jr	1.01	0.99-1.03	1.05	1.02-1.07
35-44 jr	1.06	1.04-1.08	1.08	1.06-1.10
45-54 jr	1.05	1.03-1.06	1.04	1.01-1.06
55-64 jr	0.91	0.89-0.93	0.90	0.87-0.93
Country[1]				
BE	0.42	0.40-0.45	0.44	0.40-0.49
BG	1.41	1.36-1.47	1.32	1.26-1.39
CZ	0.78	0.76-0.81	0.62	0.60-0.65
DK	0.65	0.63-0.68	0.76	0.73-0.80
DE	0.29	0.28-0.30	0.25	0.24-0.26
EE	1.35	1.29-1.41	1.37	1.31-1.45
IE	0.53	0.52-0.54	0.49	0.46-0.53
EL	1.25	1.21-1.28	1.08	1.04-1.12
ES	1.61	1.57-1.66	1.79	1.73-1.85

	Univariate analyses		Multivariate analysis	
	OR	CI	OR	CI
FR	4.11	3.95-4.26	5.75	5.51-6.01
IT	1.09	1.07-1.12	1.15	1.11-1.18
CY	1.61	1.52-1.71	2.10	1.96-2.25
LV	0.44	0.38-0.51	0.41	0.35-0.49
LT	0.72	0.68-0.76	0.65	0.61-0.70
LU	0.14	0.13-0.15	0.14	0.13-0.15
HU	0.70	0.68-0.72	0.63	0.61-0.66
MT	1.28	1.19-1.38	1.26	1.14-1.38
NL	2.07	2.02-2.11	3.11	3.01-3.21
AT	1.32	1.27-1.37	1.43	1.36-1.50
PL	1.52	1.47-1.56	1.37	1.32-1.43
PT	1.22	1.16-1.28	1.27	1.19-1.35
RO	1.26	1.22-1.29	0.88	0.85-0.92
SI	1.89	1.80-1.99	1.91	1.80-2.03
SK	0.62	0.60-0.65	0.43	0.41-0.45
FI	1.82	1.76-1.88	2.11	2.03-2.20
SE	1.61	1.58-1.65	2.25	2.18-2.32
UK	1.29	1.26-1.31	[2]	
Professional status				
Employee	ref			
Self employed	1.14	1.11-1.16	[2]	
Sector				
Agriculture, hunting and forestry	1.79	1.72-1.87	1.14	1.05-1.24
Fishing	3.02	2.40-3.80	1.51	1.11-2.06
Mining and quarrying	3.22	2.87-3.61	2.68	2.34-3.09
Manufacturing	1.43	1.38-1.48	1.22	1.16-1.29
Electricity, gas and water supply	1.04	0.95-1.14	1.05	0.94-1.18
Construction	2.51	2.42-2.62	1.80	1.69-1.92
Wholesale retail trade, repair	0.89	0.86-0.93	1.08	1.02-1.14
Hotels and restaurants	0.95	0.90-0.99	1.07	0.99-1.15
Trans-port/storage/communication	1.44	1.38-1.50	1.19	1.12-1.27
Financial intermediation	0.33	0.32-0.35	0.39	0.35-0.43
Real estate, renting and busi-ness activities	0.50	0.48-0.52	0.65	0.61-0.69
Public administration and defen-se	0.67	0.64-0.70	0.82	0.77-0.87
Education	0.61	0.58-0.63	1.07	1.00-1.14
Health and social work	1.19	1.15-1.24	1.90	1.79-2.02
Other community activities	0.85	0.81-0.89	0.91	0.85-0.98
Private households with em-ployed persons	0.76	0.69-0.83	0.44	0.39-0.49
Extra-territorial organizations and bodies	u		u	
Occupation				
Highly skilled non manual	0.45	0.44-0.47	0.45	0.43-0.46
Low skilled, non manual	0.56	0.54-0.58	0.62	0.60-0.64
Highly skilled, manual	1.89	1.84-1.95	2.16	2.07-2.25
Low skilled, manual	1.49	1.45-1.53	1.69	1.63-1.76
Army	1.40	1.27-1.55	0.99	0.88-1.12
Size firm				
>10 persons	ref			
10 persons or less	0.92	0.90-0.94	0.90	0.87-0.93

	Univariate analyses		Multivariate analysis	
	OR	CI	OR	CI
Time since started work				
≥60 months	ref			
<12 months	0.90	0.87-0.92	0.79	0.76-0.82
12-23 months	0.91	0.89-0.94	0.87	0.84-0.91
24-59 months	0.94	0.91-0.96	0.90	0.87-0.93
Full-time/Part-time				
Full time	ref			
Part time	0.66	0.65-0.68	0.93	0.89-0.96
Type of contract				
Permanent	ref			
Temporary	1.07	1.04-1.10	0.97	0.93-1.01
Shift work				
No shift work	ref			
Shift work	1.85	1.81-1.90	1.57	1.52-1.62
Atypical working hours				
Never	ref			
Sometimes	1.45	1.42-1.49	1.44	1.40-1.49
Usually	1.75	1.72-1.79	1.69	1.64-1.75
Evening work				
Never	ref			
Sometimes	1.29	1.26-1.32		
Usually	1.47	1.44-1.51		
Night work				
Never	ref			
Sometimes	1.87	1.81-1.93		
Usually	1.96	1.89-2.03		
Saturday work				
Never	ref			
Sometimes	1.50	1.47-1.54		
Usually	1.71	1.68-1.75		
Sunday work				
Never	ref			
Sometimes	1.37	1.33-1.41		
Usually	1.70	1.66-1.75		

[1] Only EU27 countries are included in the present analysis. When HR was included, the following was found: univariate analysis OR 0.95 (0.89-1.01), multivariate analysis OR 0.78 (0.72-0.84). When NO was included, the following was found: univariate analysis OR 0.42 (0.40-0.43), multivariate analysis OR 0.45 (0.42-0.48).

[2] Dropped as a result of missing data

( ): limited reliability due to small sample size, u: not available or sample size below publication limit.

7.4 Discussion and conclusion

In the EU27, 27.9% of the workers aged 15-64 years reported exposure at work in the past 12 months that adversely affected mental well-being. This corresponded to 55.6 million workers. Among these workers, the vast majority identified exposure to 'time pressure or overload of work' as the main factor affecting mental well-being (82.5%), while 'harassment or bullying' and 'violence or treat of violence' were selected as the main factor by 9.7% and 7.8% of these workers, respectively.

Exposure at work affecting physical health occurred more often than exposure affecting mental well-being. It was reported by 40.7% of the workers aged 15-64 years in the EU27. This corresponded to 81.2 million workers. Among these workers, the 40.9%

reported exposure to ‘difficult work postures, work movements or handling of heavy loads’, 24.8% to ‘the risk of an accident’, 20.8% to ‘chemicals, dusts, fumes, smoke, or gases’, and 13.6% to ‘noise or vibration’.

Exposure affecting physical health was more likely in men than in women, whereas no substantial difference for mental well-being was found. Exposure affecting mental well-being was more likely in highly skilled non-manual workers, whereas manual workers were more likely to report exposure affecting physical health. Atypical working hours and shift work increased the likelihood of both exposure affecting mental well-being and exposure affecting physical health, while a firm with 10 persons or less, a shorter time since started to work, and part-time work decreased the likelihood of these exposures.

Among sectors, important differences in the likelihood of exposure affecting mental well-being and physical health were found. The increased likelihood of exposure could partly be explained by the demographic and work characteristics. After adjustment for demographic and work characteristics, exposure affecting mental well-being was most likely among workers in the sectors ‘Health and social work’, ‘Transport, storage and communication’, and ‘Financial intermediation’. After adjustment for demographic and work characteristics, exposure affecting physical health was most likely among workers in the sectors ‘Mining and quarrying’, ‘Health and social work’, and ‘Construction’. Therefore, workers in the sector ‘Health and social work’ had a strongly increased likelihood of both exposure affecting mental well-being and physical health.

Differences between Member States were large. The multivariate analyses showed that these differences could not be explained by differences in demographic characteristics or the work characteristics, as known from the Labour Force Survey. Interpretation of these differences is difficult. Differences between Member States could be attributed to several factors, such as culture, policy, awareness, wording of the questionnaires and use of proxies. However, the influence of these factors on the variation among countries is unknown. Therefore, we cannot draw conclusions on differences between countries, and comparisons among countries should be interpreted very carefully.

8 Discussion and conclusions

8.1 Background and aims

The primary objective of the Community strategy 2007-2012 on Health and Safety at Work is an ongoing, sustainable and uniform reduction in accidents at work and occupational illnesses. The aim is to achieve an overall reduction in the total incident rate of accidents at work per 100,000 workers in the EU27 of 25% during this period. In the Social Agenda (2005-2010), the European Union has fixed as its overall strategic goal to promote more and better jobs and to offer equal opportunities for all citizens.

This publication relates to these strategies, by offering the statistical analysis and publication of the Labour Force Survey (LFS) 2007 ad hoc module data on Health and Safety at Work. The aim of this ad hoc module is to provide a description of the occurrence of accidents at work and of non-accidental work-related ill-health and in particular:

- to know the number of cases and days lost because of accidents at work and of non-accidental work-related health problems
- to analyse the differences in the occurrence of these accidents and health problems by factors linked to the employment characteristics of the worker and factors linked to the employer's characteristics
- to know about the occurrence of factors at work that can adversely affect health

The results of the statistical analysis are presented in the underlying publication. Additionally, a "Statistics in Focus" publication was prepared (SIF 63/2009), as well as multidimensional tables for Eurostat's website. Later on a statistical publication on Health and Safety at Work in the EU will be prepared, describing the LFS 2007 ad hoc module results and other the key statistical EU level data in the field of Health and Safety at Work.

This publication offers not only the results of the statistical analysis (including a non-response analysis), but also the description and results of the evaluation of the wording of the questionnaires used and the interview methods used. The results are discussed in relation to the outcomes of these checks on methodological quality and comparability.

8.2 Quality assessment

8.2.1 Interview techniques

As a result of differences between target populations we limited the age range to 15-64 years.

Response by proxy was used in most countries. This might have led to biased results. Respondents for which another person responds to the questionnaire may differ from respondents that answer the questions themselves. Proxies may be less aware of accidents, work-related health problems and exposures and report these less often than direct participants. Finally, if respondents are obliged to participate, this might lead to biased results, as respondents might be inclined to give incorrect answers. The occurrence of accidents at work, work-related health problems and harmful exposure were compared between proxy respondents and direct respondents. It was concluded that

proxies report less accidents, less work-related health problems and less harmful exposure that might affect mental health. From these results it is concluded that it is probable that results for countries with high proportion of proxies and the EU27 general results for these outcomes might show an underestimation for these outcomes. This effect should be investigated further in order to decide on the use of proxies in the future.

8.2.2 Wording

Eurostat closely guided and monitored the administration of the ad hoc module by the 29 participating countries. However countries were not obliged to follow the wording and methodology proposed by Eurostat to administer the ad hoc module.

Various minor and major wording differences were identified. There was a considerable difference between countries in the number of questions asked in the ad hoc module, and in the construction of the questions.

Wording differences were identified for every single question in the ad hoc module. Wording differences included the following; Differences in the wording of 'accidents resulting in injury' were found. Several countries did not refer to *mental* health problems in the questions on 'work-related health problems'. The construction of the questions on 'work-related health problems' in France differed strongly from the Eurostat proposal. Furthermore, the wording analysis showed that caution needed to be taken when short term sick leave was studied, because of a lack of emphasize on calendar days in many countries, and slightly different answer categories in some countries.

In addition, wording differences were found for the questions on 'exposure to factors adversely affecting mental well-being or physical health'. Most countries did not ask for 'particular exposure' but asked for the factor most exposed to. Some countries did not assess the main factor affecting mental well-being or physical health. Other countries did not relate exposure to mental well-being or physical health at all, or first asked for exposure and subsequently asked which exposure influenced health most. Finally, some countries changed the content of the answer categories.

Most questions proposed by Eurostat for the ad hoc module are 'open' questions. For example: "Have you suffered from any illness, disability or other physical or mental problem?" Answering an 'open' question is a matter of recollection. The respondent has to actively recover an issue from his or her memory and decide whether it fits to the question. This as opposed to recognition that you can find when a respondent has to respond 'yes' or 'no' to a more specific 'closed' question, like: "Have you suffered from stress, anxiety or depression?" In general recognition is an easier task than recollection and will lead to more positive answers.

Wording differences may have influenced the comparability between countries and the validity of the EU27 figures. Major wording differences have been studied and interpreted, and resulted in several implications for the statistical analysis. In the following, we will elaborate on the wording differences in the questions on 'work-related health problems' in France and the resulting data.

The construction of the question on the occurrence of work-related health problems in France differed strongly from the proposal by Eurostat. The resulting data showed that France had the highest percentage of work-related health problems in Europe, and the results from France prominently influenced the EU27 figure. Although analyses were

performed for the EU27 with and without France, we concluded analyses without France give a more valid picture of the EU27 than with France included. By leaving the results of France out of the total EU27 results, we implicitly assume that the results of France are similar to the average EU27 results. If an estimation is given of the total number of persons in the EU27 with work-related health problems, we suggest using the actual number without France and adding the number of health problems that could be expected in France if the occurrence in France was the same as the mean occurrence in the EU27 without France.

The results of France differ also with regard to the type of work-related health problem. In France 'stress, depression or anxiety' is more often reported as the main health problem than on average in the EU27. However, some countries report an even higher percentage of 'stress, depression or anxiety'. We are not able to determine if the high percentage in France is due to the different construction of the French questionnaire.

In conclusion, the wording analysis showed that if countries are compared, wording differences and their potential influence on the resulting data must be considered carefully.

8.2.3 Non-response

The module and item non response are highly satisfactory. The results can be considered representative of the target population. For details on the core survey non-response we refer to the Quality Report of the Labour Force Survey 2007.

8.3 Accidents at work

8.3.1 Occurrence

In the EU27 3.2% of the persons aged 15 to 64 years that are currently employed or were employed during the last year reported an accident at work during the last 12 months. This percentage may be an underestimation as a result of the use of proxy respondents. These accidents resulted often in sick leave (73%), sometimes in sick leave of more than one month (22%).

8.3.2 Related factors

The occurence of accidents at work was more likely in men, and decreased with age. Several work characteristics increased the likelihood of an accident, in particular manual work. Sectors with the highest likelihood of accidents are Construction, Manufacturing and Agriculture. However, despite some more favourable work characteristics, persons working in the sectors Hotels and restaurants and Health and social work were also more likely to report accidents.

8.4 Work-related health problems

8.4.1 Occurrence

In the EU27, 8.6% of the persons aged 15 to 64 years that are currently employed or were employed previously, reported one or more health problem caused or made worse by work in the past 12 months. This percentage may be an underestimation as a result of the use of proxy respondents. 'Bone, joint or muscle problems' and 'Stress, depression or anxiety' were most frequently described as the most serious work-related health problem. Work-related health problems resulted in sick leave of one day or

more in the past 12 months in 62% of the persons with a work-related health problem. Sick leave of one month or more was reported by 27%. Considerable limitations in day to day activities were experienced by 22% of the persons with a work-related health problem.

8.4.2 Related factors

The occurrence of work-related health problems was more likely in women, older workers, manual workers, and in those working in shifts, with atypical working hours, fulltime employment, a permanent contract, longer time since started to work, and a firm larger than 10 persons. Important differences in the likelihood of work-related health problems were found among sectors. In some sectors, the increased or decreased likelihood of health problems could (partly) be explained by demographic and work-related characteristics.

8.5 Harmful exposure

8.5.1 Occurrence

In the EU27, 27.9% of the workers aged 15-64 years reported exposure at work in the past 12 months that adversely affected mental well-being. This percentage may be an underestimation as a result of the use of proxies. The vast majority of these workers identified exposure to 'time pressure or overload of work' as the main factor affecting mental well-being. Exposure at work affecting physical health occurred more often than exposure affecting mental well-being. It was reported by 40.7% of the workers aged 15-64 years in the EU27. Among these workers, exposure to 'difficult work postures, work movements or handling of heavy loads' was most often reported as the main factor.

8.5.2 Related factors

Exposure affecting physical health was more likely in men, manual workers, shift workers and workers with atypical working hours. Exposure affecting mental well-being occurred more often in highly skilled non-manual workers, shift workers, and workers with atypical working hours.

Among sectors, important differences in the likelihood of exposure affecting mental well-being and physical health were found. After adjustment for demographic and work-related factors, exposure affecting mental well-being was most likely among workers in the sectors 'Health and social work', 'Transport, storage and communication', and 'Financial intermediation'. Exposure affecting physical health was most likely among workers in the sectors 'Mining and quarrying', 'Health and social work', and 'Construction'.

8.6 Differences between countries

Differences between participating countries in the findings on accidents at work, work-related health problems, and exposure were substantial. The multivariate analyses showed that these differences could in general not be explained by differences in demographic characteristics or work characteristics included in the Labour Force Survey. Interpretation of these differences is difficult. Differences between Member States could be attributed to several factors, including real differences, culture, policy, awareness, wording of the questionnaires, and use of proxies. However, the influence of

these factors on the variation among countries is unknown. Therefore, we cannot draw conclusions on differences between countries, and comparisons among countries should be interpreted very carefully.

8.7 Recommendations

It is foreseen to administer a new ad hoc module on Health and Safety at Work in 2013. In the light of time series analysis it is advisable to keep the ad hoc module as it is. From the point of view of comparability between countries and the validity of the EU27 estimate it is recommended to review:

1. the guidance of countries on the wording and the type of questions used.
2. the guidance of countries on the interview methods and the use of proxies

8.7.1 Wording and types of questions used

For every variable included in the ad hoc module, wording differences were found. In this report wording differences are described in detail, and hence, insight is provided in how the questions of the ad hoc module could be harmonized when the module is repeated (Chapter 4 and Annex E). More guidance or more strict advice to countries preparing their questionnaires might result in more comparable results.

It is specifically suggested:

- To give more guidance on the number of questions and answer categories used to assess a variable, the wording and the construction of questions and answer categories, and the instructions provided.
- To review the way the number of days off is questioned (use of calendar days versus working days, different questions for accidents and work-related health problems).
- To give more guidance on the explicit reference to mental health injuries, work-related mental health problems, and exposure that affects mental well-being.

Finally, as a part of the harmonization of the questionnaires used in all participating countries, it might be helpful to systematically and extensively compare the wording and types of questions used before the ad hoc module is administered.

8.7.2 Interview methods and use of proxies

The effects of the use of proxies should be investigated further in order to decide on the use of proxies in the future.

A Proposed wording of the LFS 2007 ad hoc module questionnaire

C209

Q1 **Thinking of the 12 months since |Full date of the interview minus one year|, have you had any accident resulting in injury at work or in the course of work?**

Are defined as accidents at work accidents that occurred whilst engaged in an occupational activity or during the time spent at work. Are excluded occupational diseases, accidents during leisure time and accidents during the journey from home to work or from work to home. Pay attention, however, that accidents during a journey in the course of work are included.

0. No ..... ➔ **Q7**
1. Yes ..... ➔ **Q2**
Blank- No answer ..... ➔ **Q7**

Q2 **How many accidents resulting in injury did you have during the past 12 months?**

1. One ..... ➔ **Q4**
2. Two or more ..... ➔ **Q3**
Blank – No answer ..... ➔ **Q4**

C210

Q3 **In the following questions (Q4-Q6a) please consider the most recent of these accidents at work**

Q4 **Was that (most recent) injury caused by…?**

Are considered as road traffic accidents all accidents in public roads or public or private car parks provided that the accident happens in the course of work. The victim may be either on board of a means of transport (driver or passenger) or a pedestrian. Road traffic accidents include both accidents in which the victim's main professional activity is related to the transport (e.g. lorry or bus drivers) and accidents in which the victim was occasionally in road traffic in the course of work (e.g. a manager going on his/her way to a business meeting outside of the enterprise.

1. a road traffic accident .....
2. or in some other way .....
Blank- No answer .....

C213

Q5 **Was the job you were doing when the accident occurred the one you previously mentioned as…?**

Refers to jobs asked in cols 27-55 (main current job), 78—83 (second current job), 85-98 (last job), 147-149 (job one year ago) of the LFS. Code the first one that applies.

1. Main current (first) job.....
2. Second current job .....
3. Last job (person not in employment) .....
4. Job one year ago .....
5. Some other job .....
Blank- No answer .....

C211/212

Q6 **How soon were you able to start work again after the accident?**

Are considered all calendar days from the cessation of work until the restart of work (i.e. weekends and bank holidays in between are also included). Are not included any further episodes of time off work following the initial return to work. Are not included absences which were not directly due to the accident.

0. I am still off work because I have not recovered from the accident, but I expect to resume work later ..... ➔ **Q7**
1. I expect never to work again because of the accident ..... ➔ **Q7**
2. No time off or the same day as the accident ..... ➔ **Q7**
3. The day after the accident ..... ➔ **Q7**
4. The second day after the accident ..... ➔ **Q7**
5. The third day after the accident ..... ➔ **Q7**
6. The fourth day after the accident ..... ➔ **Q7**
7. The fifth day or longer after the accident ..... ➔ **Q6a**

Blank- No answer ..... ➔ **Q7**

Q6a **How many days after your accident did you go back to work?**

This question is for those who returned to work the fifth day or later after the accident. Are considered all calendar days from the cessation of work until the restart of work (i.e. weekends and bank holidays in between are also included). Are not included any further episodes of time off work following the initial return to work. Are not included absences which were not directly due to the accident.

1. From five days but before two weeks after the accident .....
2. From two weeks but before one month after the accident .....
3. From one month but before three months after the accident .....
4. From three months but before six months after the accident .....
5. From six months but before nine months after the accident.....
6. Nine months or later after the accident.....

Blank- No answer .....

(In some languages questions 6 and 6a may be easier if (full) days of absence instead of the date when the person returned to work are considered. The questions can be reformulated that way as well, but the categories should correspond to the categories defined by the date of return. For example two full days of absence corresponds to return the third day after the accident (date of accident, then absence first and second day after the accident and return to work the third day after the accident. In question 6a an alternative to the formulation above is that the respondent is asked to give the number of days, weeks or months of absence and the categories are recoded from this information.)

C214

Q7 **(Apart from the accident you have told me about), within the last 12 months have you suffered from any illness, disability or other physical or mental problem?**

Any complaint suffered by the person during the 12 months reference period has to be included.

0. No ..... ➔ **F4**
1. Yes ..... ➔ **Q7a**

Blank- No answer ..... ➔ **F4**

Q7a **Is any of these an illness that you consider is caused or made worse by your job or by work you have done in the past?**

The criterion is that the person considers himself/herself that this complaint is caused or made worse by work (past or current). This means that the work-related problems asked for should not be restricted to cases reported or recognised by the authorities, but all cases even those without time off work should be included provided the above criteria are satisfied.

0. No ..... ➔ **F4**
1. Yes ..... ➔ **Q8**
Blank- No answer ..... ➔ **F4**

Q8 **How many illnesses have you had (in the last 12 months) that have been caused or bee made worse by your work?**

1. One ..... ➔ **Q10**
2. Two or more ..... ➔ **Q9**
Blank – No answer ..... ➔ **Q10**

Q9 **In the following questions (Q10-Q13) please consider the most serious one the illnesses you suffered during the last 12 months and which were caused of made worse by your work.**

C215/216

Q10 **How would you describe this illness?**

Record according to spontaneous answer. If no spontaneous answer, start to read the list until an alternative is chosen by the respondent. If more than one code applies, i.e. the respondent's illness has more than one effect, code the one which the respondent says is the most serious, or affects him/her most.

00. Bone, joint or muscle problem which mainly affects neck , shoulders, arms or hands
01. Bone, joint or muscle problem which mainly affects hips, legs, feet .....
02. Bone, joint or muscle problem which mainly affects back .....
03. Breathing or lung problem .....
04. Skin problem .....
05. Hearing problem .....
06. Stress, depression or anxiety .....
07. Headache and/or eyestrain .....
08. Heart disease or attack, or other problems in the circulatory system .....
09. Infectious disease (virus, bacteria or other type of infection) .....
10. Other types of complaint .....
Blank- No answer .....

C217

Q11 **Would you say this illness limits your ability to carry out normal day to day activities either at work or outside work considerably, to some extent or not at all?**

The complaint refers to the most serious complaint caused or made worse by work, while the limitation in day to day activities covers also activities outside work. E.g. if a skin problem caused or made worse by work considerably limits the person's day to day activities at home, it should be coded as 2 - Yes, considerably.

0. No at all .....
1. Yes, to some extent .....
2. Yes, considerably .....
Blank- No answer .....

C218/219

Q12a In the last 12 months, how much time off work have you had because of this illness?

Are considered all calendar days from the cessation of work until the restart of work (i.e. weekends and bank holidays in between are also included). Are considered only periods related to the most serious illness caused or made worse by work, and are included all recurrent episodes of time off work due to this illness following the initial period.

01. I expect never to work again due to this illness .....

02. Less than one day or no time off .....

03. At least one but less than four days .....

04. At least four days but less than two weeks .....

05. At least two weeks but less than one month .....

06. At least one month but less than three months .....

07. At least three months but less than six months .....

08. At least six months but less than nine months .....

09. At least nine months .....

Blank- No answer .....

Q12b You have not been in employment during the last 12 months, was this due to…?

If the person has not been working at all during the last 12 months, but because of reasons not related to the complaint caused or made worse by work, code 00 is to be used. If the person has not been working at all during the last 12 months and this is due to the complaint caused or made worse by work, codes 01 and 02 are to be used depending on whether the person still expects to return to work later. Take notice that for people not having worked during the last 12 months due to reasons other than the complaint caused or made worse by work, there is no theoretical estimation of the absence that he/she would have experienced due the complaint caused or made worse by work, if he/she would have still been employed. If the fact of not being working during the last 12 months was mainly due to these other reasons, the code 00 should be used.

00. It was due to reasons not related to the complaint caused or made worse by work (e.g. due to normal retirement, an illness not caused or made worse by work, looking after home or family) .....

01. It was due to the complaint caused or made worse by work, and I expect never to work again due to this illness .....

02. It was due to the complaint caused or made worse by work, but I expect to resume work in future .....

Blank- No answer .....

C220

Q13 Was the job that caused or made your illness worse the one you previously mentioned as…?

Refers to jobs asked in cols 27-55 (main current job), 78—83 (second current job), 85-98 (last job), 147-149 (job one year ago) of the LFS. Code the first one that applies.

1. Main current (first) job .....

2. Second current job .....

3. Last job (person not in employment) .....

4. Job one year ago .....

5. Some other job .....

Blank- No answer .....

C221

Q14a **Would you say that at your workplace you have particular exposure to harassment or bullying that can adversely affect your mental well-being?**

Workplace refers to the usual geographical environment where the respondent carries out his/her work activities. Usually it is the local unit or establishment, but for certain workers (e.g. forestry workers, firemen) it should be taken as the general environment where the work is usually carried out. Particular exposure refers to an existence of the mentioned factors which is clearly more frequent or more intensive than people experience in general day to day life. Harrassment and bullying refer to intentional use of power against another person or group that can result in harm to physical, mental, spiritual, moral or social development (a term psychological violence is also sometimes used and is included in this category).

0. No .....
1. Yes .....
Blank- No answer .....

Q14b **Would you say that at your workplace you have particular exposure to violence or threat of violence that can adversely affect your mental well-being?**

Workplace refers to the usual geographical environment where the respondent carries out his/her work activities. Usually it is the local unit or establishment, but for certain workers (e.g. forestry workers, firemen) it should be taken as the general environment where the work is usually carried out. Particular exposure refers to an existence of the mentioned factors which is clearly more frequent or more intensive than people experience in general day to day life. Violence refers to physical force against another person or group that results in physical, sexual or psychological harm. Both real experiences of such actions and a feeling of the threat of such actions are covered.

0. No .....
1. Yes .....
Blank- No answer .....

Q14c **Would you say that at your workplace you have particular exposure to time pressure or overload of work that can adversely affect your mental well-being?**

Workplace refers to the usual geographical environment where the respondent carries out his/her work activities. Usually it is the local unit or establishment, but for certain workers (e.g. forestry workers, firemen) it should be taken as the general environment where the work is usually carried out. Particular exposure refers to an existence of the mentioned factors which is clearly more frequent or more intensive than people experience in general day to day life. Time pressure and overload or work refer to demands concerning either the time during which the work needs to be executed or demands concerning the amount of work to be executed and these demands going beyond the ablities and resources of the person.

0. No .....
1. Yes .....
Blank- No answer .....

FILTER

If more than one Yes in Q14a-Q14c ➔ **Q15**
Else ➔ **Q16a**

Q15 At your workplace, which of these factors do you consider as the main factor from the point of view of adverse effects on your mental well-being?

1. Harassment or bullying
2. Violence or threat of violence
3. Time pressure or overload of work
Blank- No answer

C222

Q16a **Would you say that at your workplace you have particular exposure to chemicals, dusts, fumes, smoke or gases that can adversely affect your physical health?**

Workplace refers to the same concept as in question Q14. Exposure refers to handling, touching, inhaling etc. of agents (chemicals, dusts, fumes etc.) that may adversely affect the physical health of the worker. Particular exposure refers to an exposure which is clearly more frequent or more intensive than people experience in general day to day life. Physical health refers to all other aspects of health than mental health.

0. No .....
1. Yes .....
Blank- No answer .....

Q16b **Would you say that at your workplace you have particular exposure to noise or vibration that can adversely affect your physical health?**

Workplace refers to the same concept as in question Q14. Exposure refers to existence of factors (noise, vibrations) that may adversely affect the physical health of the worker. Particular exposure refers to an exposure which is clearly more frequent or more intensive than people experience in general day to day life. Physical health refers to all other aspects of health than mental health.

0. No .....
1. Yes .....
Blank- No answer .....

Q16c **Would you say that at your workplace you have particular exposure to difficult work postures, work movements or handling of heavy loads that can adversely affect your physical health?**

Workplace refers to the same concept as in question Q14. Exposure refers to existence of factors (work postures, work movements, handling of heavy loads) that may adversely affect the physical health of the worker. Particular exposure refers to an exposure which is clearly more frequent or more intensive than people experience in general day to day life. Physical health refers to all other aspects of health than mental health.

0. No .....
1. Yes …….. Blank- No answer ……...

Q16d **Would you say that at your workplace you have particular exposure to risk of accidents that can adversely affect your physical health?**

Workplace refers to the same concept as in question Q14. Exposure refers to existence of factors (risk of accidents) that may adversely affect the physical health of the worker. Particular exposure refers to an exposure which is clearly more frequent or more intensive than people experience in general day to day life. Physical health refers to all other aspects of health than mental health.

0. No .....
1. Yes .....Blank- No answer ……...

FILTER

If more than one Yes in Q16a-Q16d ➔ **Q17,** Else ➔ **END**

Q17 **At your workplace, which of these factors do you consider as the main factor from the point of view of adverse effects on your physical health?**

1. Chemicals, dusts, fumes, smokes or gases .....
2. Noise or vibration .....
3. Difficult work postures, work movements or handling of heavy loads .....
4. Risk of accidents
Blank- No answer .....

B Codes and classifications

1. Country codes

BE Belgium
BG Bulgaria
CZ Czech Republic
DK Denmark
DE Germany
EE Estonia
GR Greece
ES Spain
FR France
IE Ireland
IT Italy
CY Cyprus
LV Latvia
LT Lithuania
LU Luxembourg
HU Hungary
MT Malta
NL Netherlands
AT Austria
PL Poland
PT Portugal
RO Romania
SI Slovenia
SK Slovak Republic
FI Finland
SE Sweden
UK United Kingdom

HR Croatia
NO Norway

2. Economic activity (NACE)

NACE1D	*Section of NACE*	*NACE 3 digit*
Agriculture, hunting and forestry	A	010 to 020
Fishing	B	050
Mining and quarrying	C	100 to 145
Manufacturing	D	150 to 372
Electricity, gas and water supply	E	400 to 410
Construction	F	450 to 455
Wholesale and retail trade, repair	G	500 to 527
Hotels and restaurants	H	550 to 555
Transport, storage and communication	I	600 to 642
Financial intermediation	J	650 to 672
Real estate, renting and business activities	K	700 to 748
Public administration and defense; compulsory social security	L	750 to 753
Education	M	800 to 804
Health and social work	N	850 to 853
Other community, social and personal service activities	O	900 to 930
Private households with employed persons	P	950
Extra-territorial organizations and bodies	Q	990

3. Occupation (ISCO)

Classification used	*Major group of ISCO-88*	*ISCO-88 4 digits*
Highly skilled, non-manual	1, 2, 3	1100 to 3480
Low skilled, non-manual	4, 5	4100 to 5220
Highly skilled, manual	6, 7	6100 to 7442
Low skilled, manual	8, 9	8100 to 9330
Army	0	0100

C Methodological notes

Selection of the study sample

The target population of the Labour Force Survey 2007 ad hoc module consisted of everybody aged 15 or more (16 or more in ES, UK and NO0, who was working or had been working previously. For questions on accident at work (c209-c213), an additional filter was used. For these questions (c209-c213), only persons were included who were working at the time of the interview or had been working in the past 12 months. An additional filter was also used for questions on hazardous exposure to factors affecting mental well-being and physical health (c221, c222). For these questions (c221, c222), only persons were included who were working at the time of the interview. In this context 'working' means did have a job or business. Persons who were absent from work for reasons of sickness absence, holidays, maternity leave etc. were classified as 'working'.

The descriptive analyses were carried out for the total target population. For the analyses on EU-level, Norway and Croatia were excluded. The latter countries were included when countries were compared.

For the logistic regression analyses with accidents at work and work-related health problems as outcome measures, a selection of the total target population was used. First, persons currently not working were excluded from the logistic regression analyses. The reason was that less information on work characteristics was available for persons not working. Second, persons who had an accident in another job than their main job were excluded from the logistic regression analyses of accidents at work. Similarly, persons with a work-related health problem caused or made worse by another job than their main job were excluded from the regression analyses of work-related health problems. The reason was that less information on work characteristics was available for persons with an accident at work or a work-related health problem in another job than their main job.

Statistical analyses

Descriptive analyses were carried out to describe health and safety at work in the European Union. This included a description at EU-level of:

- accidents at work, the proportion of road accidents, days off after the most recent accident;
- work-related health problems, the type of health problem considered to be the most serious work-related health problem, limitations in day to day activities due to the most serious work-related health problem, days off work due to the most serious work-related health problem, and
- exposure to factors adversely affecting mental well-being and physical health.

The occurrence of accidents, work-related health problems, and harmful exposures was described per country, and by demographic and work characteristics.

To determine the relation between independent variables and the outcome variables accidents at work, work-related health problems, and mental and physical exposure, logistic regression analyses were carried out. The logistic regression model is the standard model of choice in this type of analysis with a dichotomous outcome variable.[12] Independent variables were sex, age, country, professional status, economic activity,

[12] Hosmer DW, Lemeshow S. Applied Logistic Regression; second edition. New York: Wiley, 2000; p.1

company size, seniority, full-time or part-time work, permanency of the job, shift work, and atypical working hours. Most independent variables were coded in such a manner that the value of one category acted as the reference value (for example 'men' for 'sex', 'employee' for 'professional status'), and the other values were compared to this reference value. For some independent variables we preferred to compare all values with the mean value of the other values of this variable. For example, we did not wish to compare all age groups with the youngest age group, but wanted to compare each age group with the mean value of all other age groups. Therefore, it was needed to create dummy variables, using a *deviation from means* coding scheme. This coding expresses the effect parameter as the deviation of the mean value instead of the deviation of the reference value.[13]

Logistic regression analyses yield odds ratios. The odds ratio is a relative measure of association, indicating the likelihood that a group of respondents (e.g. those working in the construction sector) experienced the outcome (e.g. an accident at work) compared to the reference group (i.e. those working in other sectors). An odds ratio (OR) of 1 means no differences between these groups. An OR higher than 1 indicates an increased likelihood of the occurrence of the dependent variable compared to the reference group. An OR below 1 indicates a decreased likelihood of the occurrence of the dependent variable. The 95% confidence interval of the OR is presented in the tables to show the statistical significance. If the number is within the range of the confidence interval, the OR is not statistically significant ($p<0.05$).

First, univariate regression analyses were carried out, in which the association between the independent variables and the dependent variable was studied, for each independent variable separately. Subsequently, multivariate regression analysis was performed. The aim of multivariate regression analysis is to statistically adjust the estimated effect of each variable in the model for differences in the distributions of and associations among the other independent variables.[14] This full model contained age, sex, country, and all work characteristics.

Weights

In all analyses weight factors were used to extrapolate the study sample to population figures. These weight factors took sex, age and region (NUTS II level) into account. Weight factors were delivered by the Member States.

[13] Hosmer DW, Lemeshow S. Applied Logistic Regression; second edition. New York: Wiley, 2000; p.59

[14] Hosmer DW, Lemeshow S. Applied Logistic Regression; second edition. New York: Wiley, 2000; p.65

D Example of questionnaire on wording differences

Questionnaire wording differences (evaluation of the first question in Hungarian as an example)

Instruction

This questionnaire is meant to assess the comparability of questions in the Labour Force Survey (LFS) on accidents at work and work-related diseases between countries. The LFS is conducted in all member states of the European Union by national statistical institutes and supervised and centrally processed by Eurostat, the statistical information service for the European Union. The LFS is meant for direct interviews among private households, of persons aged 15 years and over.
To compare data from different countries it is important to assess the wording, grammar and concepts of the questions in all languages. A change in the wording of a question may lead to more positive or negative answers.

Therefore, we called in the help of persons speaking English and another European language. Since many persons in the European Union speak English as a second language we use the wording in English as proposed by Eurostat as the standard. In this questionnaire you will be asked first to translate the questions in your language (or a language you are highly familiar with) to English. Since the English version and any survey instructions are on the next page, we ask you to refrain from looking at the following pages before you finish the translation. Next we will ask you to compare your translation and the English version of the survey questions, taking the survey instructions into account. Then you will be asked some questions about the differences and their possible consequences.

This questionnaire is not meant to test your language abilities. You may use a dictionary.

Please return the questionnaire by email to g.geuskens@tno.nl. If you wish to send the questionnaire by post, you can use the following reply address:

TNO Quality of Life
Business Unit Work and Employment
Goedele Geuskens
Antwoordnummer 518
2130 WB HOOFDDORP
The Netherlands

Method

In order to evaluate the wording of the ad hoc module questions in all languages of the participating countries, we intend to distribute the following questionnaire to an evaluator with very good understanding of both English and **Hungarian**. The questionnaire does not only ask the evaluator to translate the questions, but also to assess the nature of the differences and to evaluate the possible consequences the differences may have on the answers. The results of this questionnaire will be used aside the information on variable and question wording and interview techniques that is available from Eurostat and the national institutes.

The evaluation will include:

- wording differences;
- grammar differences;
- conceptual differences;
- differences in interview techniques, and
- cultural differences.

Before you can enter the study as evaluator the following questions assess your language abilities.

We asked you to assess the translation of the Labour Force Survey into the **Hungarian** language. We use the English version as the standard. First, we would like to ask you some questions about your knowledge of these languages and your expertise in general.
What is the most applicable concerning your understanding of English: ☐ I am a native speaker ☐ I am bilingual ☐ I live and work in an English speaking environment ☐ My work is English spoken ☐ I use the English language frequently for my work (for example due to international contacts) ☐ I studied English ☐ Other:
What is the most applicable concerning your understanding of **Hungarian**: ☐ I am a native speaker ☐ I am bilingual ☐ I live and work in an **Hungarian** speaking environment ☐ My work is **Hungarian** spoken ☐ I use the **Hungarian** language frequently for my work ☐ I studied **Hungarian** ☐ Other:
Do you have expertise in one of the following areas? (if applicable, check multiple answers) ☐ occupational health and safety ☐ social sciences ☐ translations (English/**Hungarian**) ☐ surveys

PLEASE TRANSLATE THIS QUESTION INTO ENGLISH

[*Italic text between square brackets*] can be ignored.

1 Szenvedett balesetet, sérülést a munkahelyén vagy munkavégzése során az elmúlt 12 hónapban?
[*igen; nem*]

Az elszenvedett balesetek, sérülések száma:
[(a beírható balesetek száma maximum 8)]

THE PROPOSED ENGLISH VERSION OF THE SURVEY QUESTION IS SHOWN BELOW, INCLUDING THE OBJECTIVE OF THE QUESTION, AND THE SURVEY INSTRUCTIONS

1 Thinking of the 12 months since [*full date of the interview minus one year*], have you had any accident resulting in injury at work or in the course of work?

[*If yes*] How many accidents resulting in injury did you have during the past 12 months?

Survey instructions:

The aim is to know if the person has had an accident at work during the past 12 months

Only those accidents that occurred at work or in the course of the work of the interviewed person are considered. All other types of accidents are excluded:

- accidents occurred in the course of traveling between home (usual place of meals also) and the workplace (commuting accidents),
- home and leisure accidents
- road traffic or transport accidents in the course of private activities.

Occupational diseases or illnesses are also excluded. An accident is a discrete occurrence, illnesses or other health conditions which develop over a long time should not be included. The concept of an accident includes also cases of acute poisoning and willful acts of other persons. However, deliberate self-inflicted injuries are excluded. The term "in the course of work" means “whilst engaged in an occupational activity or during the time spent at work”. Any accident occurred during working time, even if it has not occurred during the usual work or in the usual workplace of the person, has to be taken into consideration. From this follows that, during work, all types of accidents in a public place or means of transport, either if it is the usual workplace or during a journey in the course of work, should be considered as an accident at work and are included.
Finally, accidents at lunch time, or any other break, inside the premises of the enterprise should also be included.

1A Is your translation into English different from the English version of the question?

☐ No, no differences at all
☐ Yes, it is different

If no, skip the next questions and proceed with question 1F.

If yes, could you translate the English version as shown here into **Hungarian**, taking into account the aim of the question and the survey instructions?

Is your translation into **Hungarian** different from the **Hungarian** version of the question?

☐ No, no differences at all
☐ Yes, it is different

Differences between translations may be subtle and of no consequences. They might be a matter of style. Or the survey instructions may compensate possible wording differences. Also, since you might not be a native speaker or perfectly bilingual, small differences might occur due to uncommon use of the language. In the next questions we will try to assess the nature of the differences.

1B Could you mark the most applicable situation?

☐ Differences will be of no consequences
☐ I am not sure about the nature of the differences
☐ Differences might have consequences for the interpretation

If you marked the first option, please skip the next questions and proceed with question 1F.

1C Could you indicate the differences between the original **Hungarian** and the English version of the LFS (only mark those options that might have consequences for the answering of the question)?

☐ The Hungarian version of the LFS is phrased in another grammatical tense (for example past versus present tense)
☐ The Hungarian version of the LFS is phrased as an active sentence, whereas the English version is phrased as a passive sentence
☐ The Hungarian version of the LFS is phrased as a passive sentence, whereas the English version is phrased as an active sentence
☐ The meaning of the word(s) for “accident resulting in injury” in the Hungarian version is different than the meaning in English
☐ The time indication - (the last 12 months) - mentioned in the Hungarian version is different
☐ In the Hungarian version the number of accidents is asked in a different manner

☐ The construction of the question in the Hungarian version is different than in the English version (for example two questions are used instead of one, or the order of the questions is different)

Another difference that could have consequences for the answering:

1D What consequences may the differences between the English and the **Hungarian** version have for the answering of the question?

☐ More respondents may reply they had an accident in the Hungarian questionnaire
☐ Less respondents may reply they had an accident in the Hungarian questionnaire
☐ Other:

1E Could you explain why the differences between the English and the **Hungarian** version may lead to different answers?

1F To conclude, is there anything else you would like to add with regard to the translation of this question?

E Results of the wording evaluation by question

In the following tables the formulation of the variable by Eurostat is given as well as the proposed formulation of questions by Eurostat. In the first column the country involved is mentioned. In the second column the number of questions that the country has used. In the third column the source of the remark is mentioned. If several languages are used in one country, several experts were included. In the fourth column the remark regarding possible wording differences is given and in the last column a conclusion is given with regard to the possible effect of the difference on the resulting data:

√: Question did not differ from proposal Eurostat, or differences probably have no consequences.
~: Unclear how difference might influence the resulting data.
Δ: Difference might result in an overestimation.
▲: Difference probably results in an overestimation.
∇: Difference might result in underestimation.
▼: Difference probably results in an underestimation.
◊: Difference might result in other issues being reported.
♦: Difference probably results in other issues being reported.
x: Content of question or answer category differs importantly with from Eurostat proposal with unknown consequences.

Table 1. Evaluation of C209

C209: Accidental injury(ies), apart from illnesses, occurred during the past 12 months, at work or in the course of work

Q1. Thinking of the 12 months since [Full date of the interview minus one year], have you had any accident resulting in injury at work or in the course of work?
Q2. How many accidents resulting in injury did you have during the past 12 months?

Country	No. questions	Source	Remark	Conclusion
BE	1	**Country**	-	√
		Expert (NL)	-	
		Expert (FR)	-	
		Expert (DE)	-	
		TNO	-	
BG	2	**Country**	It seemed likely that some respondents did not report accidents.	∇
		Expert	-	
		TNO	-	
CZ	1	**Country**	-	
		Expert	- "Accident" in Czech seems to have different meaning than in English. In the Czech, "accident" not used, persons only asked about "injuries".	~
			- Number of accidents asked in a different manner	~
			- Translation of "thinking of the past 12…' unclear.	~
		TNO	-	
DK	1	**Country**	-	√
		Expert	-	
		TNO	-	

DE	1	**Country**	-	
		Expert	-	
		TNO	- Question asks for “Arbeitsunfälle”, and not explicitly for accidents resulting in injury.	~
EE	2	**Country**	Sometimes it is difficult for respondents to make a difference between accidents at work and work-related health problems.	**~**
		Expert (E)	The term "accidents at work" is used and explained in line with Eurostat proposal. Hence, Estonian question should give more precise answers.	**~**
		Expert (R)	Meaning of the words for "accident resulting in injury" is different.	**~**
		TNO	-	
GR	2	**Country**	-	√
		Expert	-	
		TNO	-	
ES	4	**Country**	-	
		Expert	Question asks for ‘accidents’, not explicitly for ‘accidents resulting in injury’.	Δ
		TNO	See expert.	
FR	1	**Country**	-	
		Expert	Difference in the specification of the nature of the accident (see TNO)	
		TNO	- Question asks for accident after which treatment was needed.	∇
			- "In the course of work" not explicitly mentioned, but ‘accident du travail’	~
IE	3	**Country**	-	
		Expert	-	
		TNO	“At work (excluding commuting)” instead of “at work or in the course of work"	**~**
IT	2	**Country**	-	√
		Expert	-	
		TNO	-	
CY	2	**Country**	Interviewees had difficulties recalling 12-month period. Interviewees tended to answer negatively rather than taking time to think.	∇
		Expert	-	
		TNO	-	
LV	2	**Country**	Some respondents did not want to report accident at work.	∇
		Expert	- Accident is translated by 2 words, ‘mischance’ (accident or something less serious than accident) and ‘accident’.	~
		TNO	-	
LT	2	**Country**	-	√
		Expert	-	
		TNO	-	
LU	1	**Country**	-	√
		Expert	-	
		TNO	-	
HU	2	**Country**	It’s hard to translate “accident” into Hungarian by one word. Therefore, ‘accident’ was completed by ‘injury’. (i.e. “accidents or injury” asked)	~
		Expert	See country	
		TNO	See country	
MT	1	**Country**	-	
		Expert	Concept of injuries resulting from accident is not included in the translation, and hence, respondents may include accidents without injury.	Δ
		TNO	- See expert	
NL	1	**Country**	-	
		Expert	Question asks for “ongeval” (~accident), which implicitly includes injury, but “accident resulting in injury” is not explicitly asked.	**~**
		TNO	- See expert	
AT	2	**Country**	-	
		Expert	Road traffic accidents are excluded. (see TNO)	

		TNO	It is unclear whether respondents understand that traffic accidents in the course of work are allowed.	∇
PL	2	**Country**	-	
		Expert	Question asks for accidents, not explicitly for accidents resulting in injury. Although injury is a part of the legal definition of accident, some people may not be aware of this.	Δ
		TNO	- See expert	
PT	2	**Country**	Problems with the concepts of accidents at work and complaint caused or made worse by work.	**~**
		Expert	Definition and examples of accident are given (“acute poisonings; third party aggressions; road traffic accidents; falls; etc”).	**~**
		TNO	- Mental health explicitly described - See expert	Δ
RO	2	**Country**	-	
		Expert	- ‘Accidents resulting in injury’ is translated as ‘accident’. Although meaning of the English ‘accident resulting in injury‘may be slightly different from Romanian ‘accident’, it would have been awkward to translate ‘resulting in injury’ literally in Romanian. - “In your main or secondary activity” is added - “In the course of work” not translated	Δ **~** ∇
		TNO	See expert	
SI	2	**Country**	-	√
		Expert	-	
		TNO	-	
SK	1	**Country**	-	√
		Expert	-	
		TNO	-	
FI	2	**Country**	-	
		Expert	-	
		TNO	Question asks for occupational accidents, but also provides definition in line with Eurostat proposal.	**~**
SE	2	**Country**	-	
		Expert	Question does not explicitly refer to injury.	Δ
		TNO	See expert	
UK	2	**Country**	-	√
		Expert	-	
		TNO	-	
NO	2	**Country**	-	
		Expert	- "Injury as a result of an accident" vs "accidents resulting in injury". - "In the course of work" is translated as "in relation to your work", which seems to be a broader concept.	**~** Δ
		TNO	-	
HR	2	**Country**	-	
		Expert	More respondents may report accident, since in Croatian law injury at work includes accidents during travelling between home and workplace.	Δ
		TNO	-	

Table 2. Evaluation of C210

C210. Type of most recent accidental injury at work or in the course of work.

Q3. In the following question please consider the most recent of these accidents at work.
Q4. Was that (most recent) injury caused by…?

Country	No. questions	Source	Remark	Conclusion
BE	1	**Country**	-	
		Expert (NL)	Dutch version asks for injury due to accident, Eurostat version for cause	~
		Expert (FR)	-	
		Expert (DE)	-	
		TNO	-	
BG	1	**Country**	-	√
		Expert	-	
		TNO	-	
CZ	1	**Country**	-	√
		Expert	-	
		TNO	-	
DK	1	**Country**	-	√
		Expert	-	
		TNO	-	
DE	1	**Country**	-	√
		Expert	-	
		TNO	-	
EE	1	**Country**	-	√
		Expert (E)	-	
		Expert (R)	-	
		TNO	-	
GR	1	**Country**	Difficult for respondents to distinguish traffic accidents during travelling from and to work, from accidents at work	Δ
		Expert	Difference between answer category “road traffic accident" and “other potential causes” not completely clear.	~
		TNO	-	
ES	1	**Country**	-	√
		Expert	-	
		TNO	-	
FR	1	**Country**	-	
		Expert	Question asks whether accident was a road traffic accident, instead of ‘road traffic accident’ being one of the answer categories.	~
		TNO	-	
IE	1	**Country**	-	√
		Expert	-	
		TNO	-	
IT	1	**Country**	Respondents found it difficult to distinguish traffic accidents in the course of work from accidents during travelling between home and work.	Δ
		Expert	Question stresses the role of the subject, i.e. accident while being driver, passenger or pedestrian.	~
		TNO	-	
CY	1	**Country**	-	
		Expert	-	
		TNO	Question states "(Accidents in public or private car parks are included)"	~
LV	1	**Country**	-	√
		Expert	-	
		TNO	-	

LT	1	**Country**	-	√
		Expert	-	
		TNO	-	
LU	1	**Country**	-	
		Expert	Question asks for type of accidental injury, not for cause of accident	~
		TNO	-	
HU	1	**Country**	-	√
		Expert	-	
		TNO	-	
MT	1	**Country**	-	
		Expert	Question asks whether last accident was a road traffic accident (yes/no).	~
		TNO	-	
NL	1	**Country**	-	√
		Expert	-	
		TNO	-	
AT	1	**Country**	-	√
		Expert	-	
		TNO	-	
PL	1	**Country**	-	√
		Expert	-	
		TNO	-	
PT	1	**Country**	-	√
		Expert	-	
		TNO	-	
RO	1	**Country**	-	
		Expert	Question asks for description of the accident, Eurostat version for cause.	~
		TNO		
SI	1	**Country**	-	√
		Expert	-	
		TNO	-	
SK	1	**Country**	-	
		Expert	Meaning of words for 'road traffic accident' different in answer category. Translation is instrumental, i.e. Injury caused by….	~
		TNO	-	
FI	1	**Country**	-	√
		Expert	-	
		TNO	-	
SE	1	**Country**	-	√
		Expert	-	
		TNO	-	
UK	1	**Country**	-	√
		Expert	-	
		TNO	-	
NO	1	**Country**	-	√
		Expert	-	
		TNO	-	
HR	1	**Country**	-	√
		Expert	-	
		TNO	-	

Table 3. Evaluation of C211/212

C211/212. Date when the person was able to start work again after the most recent accidental injury.

Q6. How soon were you able to start work again after the accident?
Q6a. How many days after your accident did you go back to work?

Country	No. questions	Source	Remark	Conclusion
BE	1	**Country**	-	
		Expert (NL)	-	
		Expert (FR)	-	
		Expert (DE)	English term 'how soon' not neutral and may put pressure on reporting shorter period, whereas German 'Zu welchem Zeitpunkt' is neutral	Δ
		TNO	- Question does not explicitly refer to calendar days	∇
			- Differences in formulation of answer categories, but this will not influence results since answer categories are exclusive: - "Between the second and the fourth day after the accident" instead of "from the second, but before the fifth day." - "Between the fifth and the fourteenth day after the accident" instead of "from the fifth, but before 2 weeks.. " - "Between two weeks and one month after the accident" instead of "from 2 weeks but before 1 month..." - "Between one and three months after the accident instead of "from one month but before 3 months..." - "Three and six months after the accident" instead of "from 3 months but before 6 months.." - "Between six and nine months after the accident" instead of "from 6 months but before 9 months.."	√
BG	2	**Country**	-	
		Expert	The second question addresses whether persons will be able to go back to work again, which contrasts the Eurostat version, in which this issue is an answer category	~
		TNO	Absolute number of days (if less than 1 months) or months (if 1 month or more) is asked by means of an open-ended question.	~
CZ	1	**Country**	-	
		Expert	Czech question asks 'days needed to recover', and not 'days before person started work again'. Respondents may report more time needed to recover than days it took to start work.	Δ
		TNO	Question does not explicitly refer to calendar days	∇
DK	1	**Country**	-	
		Expert	-	
		TNO	Question does not explicitly refer to calendar days	∇
DE	2	**Country**	-	
		Expert	-	
		TNO	Question does not explicitly refer to calendar days	∇
EE	2	**Country**	-	
		Expert (E)	-	
		Expert (R)	Meaning of words for "able to start work again" different.	~
		TNO	Question does not explicitly refer to calendar days	∇
GR	3	**Country**	-	√
		Expert	-	
		TNO	-	
ES	2	**Country**	-	
		Expert	-	
		TNO	Question itself does not explicitly refer to calendar days, but a reference to calendar days is made in the written manual for the interviewers.	∇

FR	7	**Country**	-	
		Expert	In French, more detailed questions are asked.	~
		TNO	Question does not explicitly refer to calendar days	∇
IE	3	**Country**	- The fact that c218 was calculated differently than c211 was confusing to both interviewers and respondents	~
			- Answer categories did not distinguish between 02 and 03	~
		Expert	-	
		TNO	- Number of days before able to start work again asked by open-ended question.	~
			- Categorization of answer categories slightly deviated:	
			No difference between answer category 02 and 03 (see Country)	~
			(1<=days<=4) instead of “from the second, but before the fifth day after the accident”	Δ
			(5<=days<=12) instead of : from the fifth, but before 2 weeks after the accident”	∇
			(13<=days<=29) instead of “from 2 weeks but before 1 month”	Δ
			- Interview note states days off include "weekends, bank holidays but not absences non injury related". No explicit reference to calendar days is made in the question itself.	~
IT	1	**Country**	-	
		Expert	Question asks for days of absence, not “starting work again”.	~
		TNO	- See expert	
			- Question does not explicitly refer to calendar days,	∇
			and to the fact that the day of the accident should not be included.	Δ
CY	1	**Country**	-	√
		Expert	-	
		TNO	-	
LV	2	**Country**	-	
		Expert	-	
		TNO	Question itself does not explicitly refer to calendar days, but a reference to calendar days is made in the written manual for the interviewers.	∇
LT	1	**Country**	-	
		Expert	In the Lithuanian version respondents will say when they returned to work, not when they were able to start work again.	~
		TNO	-	
LU	1	**Country**	-	
		Expert	-	
		TNO	Question does not explicitly refer to calendar days, but instruction for interviewer next to question does	~
HU	1	**Country**	-	
		Expert	-	
		TNO	Question does not explicitly refer to calendar days, but instruction for interviewer next to question does	~
MT	2	**Country**	-	
		Expert	Question asks for “absence from work” instead of “able to start work”	~
		TNO	- See expert	
			- The number of days absent asked by an "open" question[§].	~
			- Question does not explicitly refer to calendar days, but instruction for interviewers next to question does,	~
			and to the fact that the day of the accident should not be included.	Δ
NL	2	**Country**	Column 211/212 and column 218/219 use very detailed response categories. Questions like these are hard to answer due to memory effects and the accuracy of the level of detail thus doubtful.	~
		Expert	-	
		TNO	- Question does not explicitly state that calendar days should be counted, but this instruction is given to interviewers.	~

AT	1	**Country**	-	
		Expert	- Question asks for number of calendar days, weeks or months off, instead of “how much time off”.	~
		TNO	- Question asks when person started to work again, instead of when person was “able” to start work again.	~
			- Question does not explicitly state calendar days should be counted, but this instruction is given to interviewers	~
PL	1	**Country**	-	
		Expert	-	
		TNO	- Question does not explicitly refer to calendar days, though it includes "(duration of the period)"	∇
PT	1	**Country**	Answer category 00 of c211/c212 and c218/c219 generated some confusion	~
		Expert	-	
		TNO	- "Unavailable to work" instead of "able to start to work again"	~
			- Answer categories posed as if question asks “able to start work again”. Hence, the one day difference between asking for “days off work” and asking when “able to start work again” for answer category 04 and 05 not taken into account.	∇
			- Question does not explicitly state calendar days should be counted.	∇
RO	1	**Country**	-	
		Expert	- The way days of absence should be counted is not clearly indicated.	~
		TNO	- "How long absent" instead of "how soon able to start again"	~
			- Statement on calendar days is made between brackets	~
SI	4	**Country**	-	
		Expert	Answer category “intend not to work again” instead of “expect not to work again”. Respondents may be less willing to express their intentions than their expectations.	∇
		TNO	- "how much time off work"/"time unable to work" instead of "how soon able to start work again"	~
			- Question does not explicitly refer to the fact that day of the accident should not be counted.	Δ
			- Categorization of answer categories slightly deviated.	
			- “1 day off” is transcoded into ‘able to start work the day after the accident’.	∇
			- “2-4 days off” instead off “at least 1 but less than 4 days”.	∇
			- “5-13 days off” instead of “at least 4 but less than 2 weeks”.	∇
SK	1	**Country**	Respondents had problems to remember the date when able to start work again due to too detailed specification.	~
		Expert	-	
		TNO	- Question does not explicitly refer to calendar days	∇
FI	7	**Country**	-	
		Expert	-	
		TNO	- "How many days were you absent from work" instead of "how soon were you able to work again"	~
SE	3	**Country**	-	
		Expert	-	
		TNO	- Question does not explicitly refer to calendar days	∇
UK	2	**Country**	-	
		Expert	-	
		TNO	- Open-ended question is used to assess when person was able to start work again if it took more than 5 days[§].	~
			- Question does not explicitly refer to calendar days	∇
NO	3	**Country**	-	
		Expert	- Question asks for absence, not “starting to work again”.	~
			- No specification that day of the accident should not be counted, which may result in respondents answering they started to work later.	Δ
		TNO	- Question does not explicitly refer to calendar days	∇

HR	2	**Country**	-	
		Expert	-	
		TNO	- Question does not explicitly refer to calendar days	∇

§ Not specified how the number of days is transcoded into the answer categories proposed by Eurostat.

Table 4. Evaluation of c214

C214. Illness(es), disabilities or other physical or psychic health problem(s), apart from accidental injuries, suffered by the person during the past 12 months (from the date of the interview) and that was (were), caused or made worse by work.

Q7. (Apart from the accident you have told me about), within the last 12 months have you suffered from any illness, disability or other physical or mental problem?
Q7a. is any of these an illness that you consider is caused or made worse by your job or by work you have done in the past?
Q8. How many illnesses have you had (in the past 12 months) that have been caused or been made worse by your work?

Country	No. questions	Source	Remark	Conclusion
BE	1	**Country**	**-**	
		Expert (NL)	Question less precise: respondents might only think of relationship between last work and illnesses.	∇
		Expert (FR)	Question asks for illness due to work, not "by your job or work in the past"	∇
		Expert (DE)	Term "mental problems" not included	∇
		TNO	**-**	
BG	3	**Country**	-	√
		Expert	-	
		TNO	-	
CZ	1	**Country**	-	
		Expert	Not completely clear that problems caused by work in the past should be included.	∇
		TNO	**-**	
DK	1	**Country**	-	√
		Expert	-	
		TNO	-	
DE	1	**Country**		
		Expert	- "Caused or made worse by work" instead of "by your job or work in the past"	∇
			- "Work-related health problems" instead of "illness, disability, physical or mental problems"	∇
		TNO	See expert	
EE	3	**Country**	- Sometimes difficult for respondents to make difference between accidents at work and work-related health problems.	~
			- Sometimes respondents do not understand meaning of "work-related health problem" and do not want to listen to explanation.	~
		Expert (E)	- "Other health problem" instead of "physical or mental health problem"	∇
		Expert (R)	- "Other health problem" instead of "physical or mental health problem"	∇
			- Question asks to specify work-related health problems, and does not ask for the number of problems (see TNO).	
			- Questions are neutral; do not speak to respondent directly (you).	~
		TNO	- See experts	
			- Persons asked to describe health problems by means of answer categories of c215/216, instead of giving the number of problems.	~

GR	3	**Country**	-	
		Expert	Question asks to describe health problem instead of asking for the number of health problems	~
		TNO	To describe health problems, answer categories of c215/216 used.	~
ES	3	**Country**	-	
		Expert	-	
		TNO	- "Illness or a physical or mental problem" instead of "illness, disability or other mental of physical health problem".	~
FR	21	**Country**	Very in-depth questioning on health problems (See TNO)	
		Expert	Different construction of the question (See TNO)	
		TNO	20 different health problems described one by one, including examples.	▲
IE	2	**Country**	-	
		Expert	'Illness, disabilities or other health complaints'. Instead of 'illness, disability or other physical or mental problem'	∇
		TNO	- See expert	
			- Question asks for absolute number	~
IT	4	**Country**	-	
		Expert	-	
		TNO	-	
CY	3	**Country**	Interviewees had difficulties recalling 12-month period. They tended to answer negatively rather than taking time to think.	∇
		Expert	-	
		TNO	-	
LV	3	**Country**	A few respondents mentioned health problems were caused by environmental factors not directly in their workplace, but around it (e.g. chemicals or gases during the way to/from the workplace or when the windows are opened, etc.).	~
		Expert	-	
		TNO	-	
LT	3	**Country**	-	
		Expert	- Only the term "caused", but not "made worse"	∇
			- Only the term "work", but not "work you have done in the past".	∇
		TNO	Question does not explicitly state that accidental injuries should not be included, also no remark in questionnaire	Δ
LU	1	**Country**	-	√
		Expert	-	
		TNO	-	
HU	2	**Country**	-	
		Expert	-	
		TNO	- "Health complaints" instead of "illnesses, disability or other physical or mental health problems".	∇
			- A list of health problems is asked, i.e. answer categories of c215/216.	~
MT	1	**Country**	-	√
		Expert	-	
		TNO	-	
NL	2	**Country**	-	
		Expert	"Complaints, illnesses or disabilities" instead of "illnesses, disabilities or other physical or mental health problems"	∇
		TNO	- See expert	
			- Question does not explicitly state that accidental injuries should not be included, also no remark in questionnaire	Δ
AT	3	**Country**	-	√
		Expert	-	
		TNO	-	
PL	2	**Country**	Respondents had difficulties to distinguish health problems due to work and age.	~
		Expert	-	
		TNO	-	

PT	2	**Country**	Problems with the concepts of accidents at work and complaint caused or made worse by work.	~
		Expert	- Question does not refer to 'work done in past'; only 'work' in general.	∇
		TNO	- See expert	
RO	2	**Country**	-	
		Expert	- Meaning for 'ilness..etc' is different in Romanian version (See TNO).	
			- Culturally, it may be more difficult in Romania to report a mental illness.	∇
		TNO	"Health problem" instead of "illness, disability or other physical or mental health problem"	∇
SI	2	**Country**	-	
		Expert	-	
		TNO	- "Work-related physical or mental problems, occupational illness, etc.?" instead of "illnesses, disability, or other physical or mental health problem caused or made worse by work"	~
			- Question does not explicitly state that accidental injuries should not be included, also no remark in questionnaire	Δ
SK	1	**Country**	- Some retired respondents did not know whether their health complaint was caused by their job or age.	~
			- Coding of permanent effects on respondent's health caused by the accidental injury at work difficult.	~
		Expert	Meaning of the words for "illness etc' is different. (See TNO).	
		TNO	- "Health problem" instead of "illness, disability or other physical or mental health problem"	∇
FI	2	**Country**	The most difficult task for the respondent was probably to evaluate whether or not his illness was work-related	~
		Expert	-	
		TNO	"Physical and mental illnesses and symptoms" instead of "illnesses, disabilities or other physical or mental health problems"	~
SE	2	**Country**	-	
		Expert	- "Physical or mental disorders" instead of "illnesses, disability or other physical or mental problem".	~
			- Question refers to complaints in the job, which will be interpreted as the current job.	∇
		TNO	See expert	
UK	2	**Country**	-	
		Expert	UK immediately asks for illnesses caused or made worse by work, whereas Eurostat proposed to first ask for illnesses in general.	~
		TNO	-	
NO	2	**Country**	-	
		Expert	- Work-related health problems are addressed immediately, without introductory question on health problems in general.	~
			- It might be less clear that problem might have started earlier.	∇
			- "Physical or psychic health problems or disabilities" instead of "illnesses, disability or other physical or mental problem"	~
		TNO	- "by your work" instead of "by your job or by work done in the past"	∇
HR	3	**Country**	-	√
		Expert	-	
		TNO	-	

Table 6. Evaluation of c217.

C217. Whether the most serious complaint caused or made worse by work limits the ability to carry out normal day to day activities either at work or outside work.

Q11. Would you say this illness limits your ability to carry out normal day to day activities either at work or outside of work considerably, to some extent or not at all?

Country	No. questions	Source	Remark	Conclusion
BE	1	**Country**	-	√
		Expert (NL)	-	
		Expert (FR)	-	
		Expert (DE)	-	
		TNO	-	
BG	1	**Country**	-	√
		Expert	-	
		TNO	-	
CZ	1	**Country**	-	
		Expert	Question is asked generally (does this illness limit everyday life of an average affected person?) not personally (how are you limited by this illness?).	~
		TNO	-	
DK	1	**Country**	-	
		Expert	-	
		TNO	- "Normal" not explicitly described for day-to-day activities (instead: your)	~
DE	1	**Country**	-	
		Expert	- Answer categories are not included in the question	~
		TNO	" bei der Arbeit oder im Privatleben " instead of "normal day-to-day activities either at work or outside work"	~
EE	1	**Country**	-	√
		Expert (E)	-	
		Expert (R)	-	
		TNO	-	
GR	1	**Country**	-	√
		Expert	-	
		TNO	-	
ES	1	**Country**	-	
		Expert	Question asks for a fact, whereas Eurostat proposed “would you say”.	~
		TNO	-	
FR	12	**Country**	-	
		Expert	Construction of the question different. (See TNO).	
		TNO	One question on difficulties at work and one on difficulties in daily life, with examples (housework, shopping, cooking, leisure, reading, sport etc.). After each question respondents indicate degree of difficulty.	Δ
IE	2	**Country**	-	√
		Expert	-	
		TNO	-	
IT	1	**Country**	-	
		Expert	"Normal day to day activities" instead of "normal day to day activities either at work or outside of work"	∇
		TNO	See expert	
CY	1	**Country**	-	√
		Expert	-	
		TNO	-	

LV	1	**Country**	-	√
		Expert	-	
		TNO	-	
LT	1	**Country**	-	√
		Expert	-	
		TNO	-	
LU	1	**Country**	-	√
		Expert	-	
		TNO	-	
HU	1	**Country**	-	∇
		Expert	"Normal day to day activities" instead of "normal day to day activities either at work or outside of work"	
		TNO	See expert	
MT	1	**Country**	-	
		Expert	Question does not include answer categories.	~
		TNO	-	
NL	2	**Country**	-	
		Expert	- Limitations at work and outside of work in two different questions.	Δ
			- Dutch version asks for a fact, the Eurostat version for an opinion.	~
		TNO	- “Hindered” instead of “limited”	Δ
			- "your work" instead of "normal day-to-day activities at work"	~
			- "your daily activities (outside of work)" instead of "normal day-to-day activities outside of work"	~
			- Answering options in different order	~
AT	1	**Country**	-	√
		Expert	-	
		TNO	-	
PL	1	**Country**	-	√
		Expert	-	
		TNO	-	
PT	1	**Country**	-	
		Expert	Question does not contain answering options.	~
		TNO	-	
RO	1	**Country**	-	
		Expert	Answer categories are in a different order.	~
		TNO	-	
SI	1	**Country**	-	
		Expert	Answer categories are in a different order.	~
		TNO	"Normal" not explicitly described.	~
SK	1	**Country**	-	√
		Expert	-	
		TNO	-	
FI	1	**Country**	-	
		Expert	-	
		TNO	"Normal" not explicitly described.(instead: your)	~
SE	2	**Country**	-	
		Expert	An example is described	~
		TNO	"Your work or normal daily life" instead of "normal day-to-day activities either at work or outside work"	~
UK	1	**Country**	-	
		Expert	Response "none" is less strongly implied by UK question starting "to what extent... ", than by the Eurostat formulation "would you say..."	Δ
		TNO	-	

NO	1	**Country**	-	
		Expert	- Two different questions for activities at work and outside of work	Δ
			- Questions ask to what extent person is limited, instead of whether a person is limited.	Δ
		TNO	See expert	
HR	1	**Country**	-	
		Expert	-	
		TNO	"Your day to day activities' instead of "normal day to day activities"	~

Table 7. Evaluation of c218/219

C218/219. Number of days off work during the last 12 months due to the most serious complaint caused or made worse by work.

Q12a. In the last 12 months, how much time off work have you had because of this illness?
Q12b. You have not been in employment during the last 12 months, was this due to…?

Country	No. questions	Source	Remark	Conclusion
BE	1	**Country**	-	
		Expert (NL)	-	
		Expert (FR)	-	
		Expert (DE)	-	
		TNO	Question does not explicitly refer to calendar days.	∇
BG	5	**Country**	-	
		Expert	Meaning of the words for “time off” is different.	~
		TNO	Open-ended questions used for days and months off work.	~
CZ	1	**Country**	-	
		Expert	"Time off work" in the Eurostat version indicates that a respondent did not work and was not at the workplace. In the Czech version "number of days when a person could not work" does not necessary have to mean that a person had a day off (see C213).	Δ
		TNO	- Question does not explicitly refer to calendar days.	∇
DK	1	**Country**	-	
		Expert	-	
		TNO	- Question does not explicitly refer to calendar days.	∇
DE	1	**Country**	-	
		Expert	-	
		TNO	- Question asks for number of working days (Arbeitstage) instead of the number of calendar days.	▼
			- Open-ended question used for number of days off work.	~
EE	3	**Country**	-	
		Expert (E)	-	
		Expert (R)	-	
		TNO	Question does not explicitly refer to calendar days.	∇
GR	2	**Country**	-	
		Expert	Questions focus on days off work, but 2nd question in Eurostat version asks for reason of no paid employment in past 12 months.	~
		TNO	Question does not explicitly refer to calendar days.	∇
ES	3	**Country**	-	
		Expert	-	
		TNO	Question itself does not explicitly refer to calendar days, but a reference to calendar days is made in the written manual for the interviewers..	∇

FR	3	**Country**	-	
		Expert	-	
		TNO	- Question does not explicitly refer to calendar days, but instruction for interviewers next to question does.	~
IE	3	**Country**	The fact that c218 was calculated differently than c211 was confusing to both interviewers and respondents	~
		Expert	-	
		TNO	- Open-ended question used for total number of days off work.	~
			- According to quality report (transcoding):	
			"4<=days<10" instead of "at least 4 for but less than 14 days",	∇
			"10<=days<30" instead of "at least 14 days and less then 30 days".	Δ
			- Question does not explicitly refer to calendar days, but interview notes state that weekends and bank holidays should be included.	~
IT	2	**Country**	-	
		Expert	-	
		TNO	Question does not explicitly refer to calendar days.	∇
CY	3	**Country**	-	√
		Expert	-	
		TNO	-	
LV	2	**Country**	-	
		Expert	-	
		TNO	Question itself does not explicitly refer to calendar days, but a reference to calendar days is made in the written manual for the interviewers..	∇
LT	1	**Country**	-	
		Expert	Respondents may report more days, because in the Lithuanian version it is not said "because of THIS illness". Therefore it might not be clear that the person is asked to count only days lost due to this one illness.	Δ
		TNO	-	
LU	1	**Country**	-	
		Expert	Question does not explicitly refer to calendar days, but instruction for interviewer next to question does	~
		TNO	See expert.	
HU	2	**Country**	-	
		Expert	Construction of the questions is different.	~
		TNO	Question does not explicitly refer to calendar days, but instruction for interviewer next to question does	~
MT	1	**Country**	-	
		Expert	-	
		TNO	- Open-ended question is used to assess number of days off work[§]	~
			- Question does not explicitly refer to calendar days, but instruction tells to include weekend, and bank holiday.	~
NL	3	**Country**	Column 211/212 and column 218/219 use very detailed response categories. Questions like these are hard to answer due to memory effects and the accuracy of the level of detail thus doubtful.	~
		Expert	-	
		TNO	- Code 00 (i.e. person has not worked in past 12 months but for reasons not related to the complaint caused or made worse by work) cannot be deduced from variables in ad hoc module, but is provided otherwise.	~
			- Question does not explicitly state that number of calendar days should be counted, but this instruction is given to interviewers.	~
AT	3	**Country**	-	
		Expert	- Question asks for number of calendar days, weeks or months instead of "how much time “off work.	~
		TNO	-	
PL	1	**Country**	Respondents were not able to provide a precise answer because of a too long recall period	~
		Expert	-	
		TNO	-	

PT	1	**Country**	Answer category 00 generated some confusion.	~
		Expert	-	
		TNO	Question does not explicitly refer to calendar days.	∇
RO	4	**Country**	-	√
		Expert	-	
		TNO	-	
SI	5	**Country**	-	
		Expert	- Time frame and "this illness" not explicitly mentioned (again). - Only part of the reasons for being off work is asked (see TNO).	~
		TNO	- Code 00 (i.e. person has not worked in past 12 months but for reasons not related to the complaint caused or made worse by work) cannot be deduced from AHM, and other LFS items are used.	~
SK	1	**Country**	- Respondents with several episodes of days off work during past 12 months had difficulties in answering question.	~
			- Term less than one day is not clear.	~
		Expert	- Question asks how much days or months instead of "how much time “off work.	~
		TNO	Question does not explicitly refer to calendar days.	∇
FI	7	**Country**	-	
		Expert	Construction of the question is different.	~
		TNO	Question does not explicitly refer to calendar days.	∇
SE	3	**Country**	-	
		Expert	-	
		TNO	Question does not explicitly refer to calendar days.	∇
UK	3	**Country**	The ad hoc module used existing questions in the UK LFS questionnaire. This means that Column 218/219 cannot be coded exactly according to the Eurostat regulation, because some of the routing in the UK LFS questionnaire did not match Eurostat requirements. - No one who has worked in the last year can be coded as column 218/219 = 01 - Expects never to work again due to this illness. - Everyone who has not worked in the last 12 months and who said that the work-related illness was caused by their main or second job is coded as missing on column 218/219.	
		Expert	One question explicitly asks whether the person expects to work again in future, whereas this is a (slightly unnatural) answer category in the Eurostat question on number of days off.	~
		TNO	- Question does not explicitly refer to calendar days, - Answer categories 1-3 days and 4-6 days include remark between brackets "(work days)" .	∇ ∇
NO	2	**Country**	-	
		Expert[15]	- Construction of the question different, answer categories different “one day or less” instead of “less than one day or no time off”, “2-3” days instead of at least one but less than 4 days”, “2-4 weeks” instead of “at least 2 weeks but less than one month”. - Words for time off different (only absence, not "from work").	Δ ∇ ~ ~
		TNO	Question does not explicitly refer to calendar days.	∇
HR	2	**Country**	-	
		Expert	-	
		TNO	Question asks for "total duration of absence", but does not explicitly refer to calendar days.	∇

§ Not specified how the number of days is transcoded into the answer categories proposed by Eurostat.

[15] It is possible that we have not evaluated the most recent questionnaire

Table 8. Evaluation of c221.

C221. Whether at the workplace the person has particular exposure to selected factors that can adversely affect his/her mental well-being.

Q14a. Would you say that at your workplace you have particular exposure to harassment or bullying that can adversely affect your mental well-being?
Q14b. Would you say that at your workplace you have particular exposure to violence or threat of violence that can adversely affect your mental well-being?
Q14c. Would you say that at your workplace you have particular exposure to time pressure or overload of work that can adversely affect your mental well-being?
Q15. At your workplace, which of these factors do you consider as the main factor from the point of view of adverse effects on your mental well-being?

Country	No. questions	Source	Remark	Conclusion
BE	1	**Country**	-	
		Expert (NL)	-	
		Expert (FR)	-	
		Expert (DE)	Word for harassment might be slightly different	~
		TNO	-	
BG	4	**Country**	- Terminology was difficult to translate into Bulgarian, especially “harassment or bullying” and “violence or treat of violence”	~
			- Some respondents may not have reported factors affecting metal well-being due to fear of job loss.	∇
		Expert	-	
		TNO	-	
CZ	1	**Country**	**-**	
		Expert	- Respondents are asked about prevalence of only *sexual harassment*, not *harassment* in general.	∇
			- Czech understanding of "sexual harassment" might differ from other nations. Czech society is characterized by certain degree of tolerance of minor forms of sexual harassment.	∇
			- Language difference between the "mental wellbeing" (positive term) in the Eurostat version and "state of mind" or "mental state" (neutral term) in Czech. While factors at work may adversely influence mental wellbeing, they may not necessarily influence mental state.	**~**
		TNO	It seems that the factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ
DK	1	**Country**	-	√
		Expert	-	
		TNO	**-**	
DE	1	**Country**	-	
		Expert	Question does not contain answer categories.	~
		TNO	It seems that the factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ
EE	2	**Country**	Often meaning of "mental well-being" needed additional explanations	~
		Expert (E)	"Mental health" instead of "mental well-being".	~
		Expert (R)	- "Mental health" instead of "mental well-being".	~
			- "Particular exposure" is stronger precondition than "Do you face" (more cases may be reported in Russian version)	Δ
			- Eurostat version asks self-estimation (Would you say). while Russian version speaks neutral (somebody considers so)	~
		TNO	-	

GR	4	**Country**	-	
		Expert	-	
		TNO	It seems that the factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ
ES	4	**Country**	-	
		Expert	-	
		TNO	It seems that the factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ
FR	6	**Country**	-	
		Expert	"Are you exposed to" instead of "would you say"	~
		TNO	- It seems that the factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ
			- "Health" instead of " mental well-being"	Δ
			- First exposure to factors is assessed, and subsequently which factor may influence health most.	Δ
			- "verbal aggression or harassment", or "discrimination" instead of "harassment or bullying"	x
			- "physical aggression or violence" instead of "violence or threat of violence'	~
IE	2	**Country**	-	√
		Expert	-	
		TNO	-	
IT	4	**Country**	-	
		Expert	- Link between factors and effects on mental well-being completely absent; (see TNO)	
			- "Time pressure" has not been translated for the answer category 'time pressure and overload of work".	∇
		TNO	- No reference is made to the fact that the factor exposed to should "adversely affects … well-being". Instead, factor most exposed to is asked.	▲
			- Answer category "harassment and discrimination" instead of "harassment and bullying".	x
CY	4	**Country**	Question is too personal to be answered by proxies	~
		Expert	- Translations into Greek do not match with the English versions.	
			1. Word bullying is difficult to describe in Greek by one word. "psychological pressure" instead of "harassment and bullying".	x
			2. "violence, threat of violence and harassment" instead of "violence or treat of violence".	x
		TNO	-	
LV	4	**Country**	-	
		Expert	Question refers to mental health, and not mental to well-being	~
		TNO	It seems that not 'particular' exposure, i.e. exposure clearly more frequent or more intensive than people experience in general day life, is asked, but just 'exposure'.	Δ
LT	1	**Country**	In the course of the survey it came out that respondents had difficulties with choosing one answer from the factors that can adversely affect mental well-being and physical health.	~
		Expert	-	
		TNO	-	
LU	1	**Country**	-	
		Expert	Question does not contain the answer categories	~
		TNO	-	
HU	1	**Country**	Interviewers felt that in some cases people didn't give a straight answer	∇
		Expert	-	
		TNO	It seems that not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked, but 'exposure to a significant degree'.	~

MT	3	**Country**	- Some of the answer categories proved to be subjective and might be ambiguous.	~
			- Data collection proved to be rather problematic, since respondents did not feel like providing information to interviewers on bullying/harassment.	∇
			- Also, it is not always easy to pin point one specific factor that affects mental well being	~
		Expert	-	
		TNO	- It seems that the factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ
			- Answer categories " no / yes, sometimes / yes, regularly" instead of "yes/no'" (*recoding unknown*)	~
			- Question on factor most affecting mental well-being is lacking	x
NL	5	**Country**	-	
		Expert	- Eurostat version asks for opinion, Dutch version asks for a fact.	~
			- Meaning of the words for "harassment or bullying" might be different	~
			- "Time pressure or overload of work" was asked by two instead of one question.	Δ
		TNO	- Exposure is first asked, and subsequently a final question on greatest risk to health. Therefore it seems that the factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ
			- First exposure to factors is assessed, and subsequently which factor may result in the highest risk for health.	Δ
			- Health instead of mental well-being	Δ
			- Answer categories " no / yes, sometimes / yes, regularly" instead of "yes/no'"	Δ
AT	3	**Country**	-	
		Expert	The factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ
		TNO	-	
PL	2	**Country**	Some respondents were anxious to report factors affecting mental well-being.	∇
		Expert	It is not clearly stated that factor "can adversely affect mental well-being". See TNO	
		TNO	- No reference is made to the fact that the factor exposed to should "adversely affects … well-being". Instead, factor most exposed to is asked.	▲
			- It seems that the factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ
PT	4	**Country**	-	
		Expert	-	
		TNO	- It seems that the factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ
RO	2	**Country**	-	
		Expert	-	
		TNO	- It seems that the factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ
SI	3	**Country**	-	
		Expert	- No reference is made to the fact that the factor exposed to should "adversely affects … well-being". Instead, factor most exposed to is asked.	▲
			- Question on factor most affecting mental well-being is lacking	x
		TNO	- Words for answer category "harassment or bullying" may differ.	~
			- It seems that the factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ

SK	1	**Country**	- Some respondents tried to hide their thoughts and feelings concerning harassment or bullying at workplace.	∇
			- Some categories of respondents (miners, soldiers, and chemists) had difficulties to choose main factor affecting mental health.	~
		Expert	Question does not contain answer categories	~
		TNO	-	
FI	4	**Country**	Among those who named several factors at work, choosing the main one was sometimes problematic.	~
		Expert	-	
		TNO	- With the exception of “violence or treat of violence”, it seems that factors exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ
SE	2	**Country**	-	
		Expert	-	
		TNO	- It seems that the factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ
UK	2	**Country**	-	
		Expert	Question does not refer to ‘particular’ exposure (see TNO)	
		TNO	- First exposure is asked, without "that can adversely affect your “well-being". Subsequently, it is asked which of these factors is the greatest risk for well-being.	Δ
NO	2	**Country**	-	
		Expert	Norwegian question asks for the degree of the effect ("influence to a considerable degree"), Eurostat version provides direction of the effect ("adversely affect")	~
		TNO	-	
HR	4	**Country**	-	√
		Expert	-	
		TNO*	-	

Table 9. Evaluation of c222.

C222. Whether at the workplace the person has particular exposure to selected factors that can adversely affect his/her physical health.

Q16a. Would you say that at your workplace you have particular exposure to chemicals, dusts, fumes, smoke or gases that can adversely affect you physical health?
Q16b. Would you say that at your workplace you have particular exposure to noise or vibration that can adversely affect you physical health?
Q16c. Would you say that at your workplace you have particular exposure to difficult work postures, work movements or handling of heavy loads that can adversely affect you physical health?
Q16d. Would you say that at your workplace you have particular exposure to risks of accidents that can adversely affect you physical health?
Q17. At your workplace, which of these factors do you consider as the main factor from the point of view of adverse effects on your physical health?

Country	No questions	Source	Remark	Conclusion
BE	1	**Country**	**-**	√
		Expert (NL)	**-**	
		Expert (FR)	-	
		Expert (DE)	-	
		TNO	-	

BG	5	**Country**	- Some respondents may not have reported factors affecting physical health due to fear of job loss.	∇
		Expert	-	
		TNO	-	
CZ	1	**Country**	**-**	
		Expert	Answer category only includes "carrying of heavy loads", and not: "handling of heavy loads", which covers also pushing, pulling, overall manipulation.	~
		TNO	- It seems that the factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ
DK	1	**Country**	-	√
		Expert	-	
		TNO	-	
DE	1	**Country**	-	
		Expert	Question does not contain answer categories	~
		TNO	- It seems that the factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ
EE	2	**Country**	-	
		Expert (E)	"Fumes" is missing in first answer category.	~
		Expert (R)	- "Particular exposure" is stronger precondition than "Do you face"	Δ
			- Eurostat version asks self-estimation (Would you say), while Russian version speaks neutral (somebody considers so)	~
			- Fumes is not included in answer category.	~
		TNO	- Handling heavy loads is a separate answer category	Δ
GR	5	**Country**	-	
		Expert	-	
		TNO	- It seems that the factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ
			- “Health” instead of “physical health”	Δ
ES	5	**Country**	-	
		Expert	-	
		TNO	- One word was used to translate "smoke" and “fumes” in the answer category “yes, mainly to chemicals, dusts, fumes, smoke or gases”	~
FR	7	**Country**	-	
		Expert	-	
		TNO	- It seems that the factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ
			- “Health” instead of “physical health”	Δ
			- First exposure to factors is assessed, and subsequently which factor may influence health most.	Δ
			- “Breathe in smoke, or dust, steam, gases or chemical products” or “come in contact with other dangerous products” instead of “exposure to chemicals, dusts, fumes, smoke or gases”	~
			- “Handling heavy loads” or “work in tiring or painful positions for long periods of time” instead of “exposure to difficult work postures, work movements or handling of heavy loads”	~
IE	2	**Country**	-	√
		Expert	-	
		TNO	-	

IT	5	**Country**	-	
		Expert	Link between factors at work and effects on physical health is present only in the third question on difficult work postures, movements etc, without specify "physical health". (See TNO).	
		TNO	- No reference is made to the fact that the factor exposed to should “adversely affects … physical health". Instead, factor most exposed to is asked.	▲
CY	5	**Country**	Question is too personal to be answered by proxies	~
		Expert	-	
		TNO	-	
LV	5	**Country**	-	
		Expert	The word “physical” is missing in risk of accident affecting physical health	~
		TNO	-	
LT	1	**Country**	In the course of the survey it came out that respondents had difficulties with choosing one answer from the factors that can adversely affect physical health.	~
		Expert	-	
		TNO	-	
LU	1	**Country**	-	
		Expert	Question does not contain the answer categories	~
		TNO	-	
HU	1	**Country**	-	
		Expert	-	
		TNO	It seems that not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked, but 'exposure to a significant degree'.	~
MT	4	**Country**	- Some of the answer categories proved to be subjective and might be ambiguous.	~
		Expert	- Question on factor most affecting physical health is lacking	x
			- The factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ
		TNO	See expert	
			- Answer categories “ no / yes, sometimes / yes, regularly” instead of “yes/no’” (*recoding unknown*)	~
NL	6	**Country**	-	
		Expert	- Eurostat version asks for opinion, Dutch version asks for fact.	~
			- “At your workplace is there so much noise that you have to speak loud to make yourself heard?” instead of “noise'”	~
			- “Do you do work that involves using force, for example lifting, pushing, pulling, carrying or do you use tools or machines that involve using force?” instead of “handling heavy loads”,	~
			- Risk of accident is not assessed.	▼
		TNO	- “Health” instead of “physical health”	Δ
			- First exposure is asked, subsequently a final question on greatest risk to health. Thus, factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ
			- First exposure to factors is assessed, and subsequently which factor may result in the highest risk for health.	Δ
			- Some factors grouped in Eurostat version are separate answer category in Dutch questionnaire	Δ
			- Answer categories “ no / yes, sometimes / yes, regularly” instead of “yes/no’”	Δ

AT	2	**Country**	-	
		Expert	- Question does not explicitly refer to particular exposure as defined by Eurostat, but asks for exposure.	Δ
			- Risk of accident not included as an answer category.	▼
		TNO	- Additional answer categories are provided, and the categories proposed by Eurostat are split in separate answer categories.	Δ
PL	2	**Country**	- Difficulties with the interpretation of noise at the workplace and understanding of risk of accident	~
		Expert	- No reference is made to the fact that the factor exposed to should “adversely affects … physical health". Instead, factor most exposed to is asked.	▲
			- Meaning of the words for "dust", and handling heavy loads is (slightly) different.	~
		TNO	- It seems that the factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ
PT	5	**Country**	-	
		Expert	-	
		TNO	- It seems that the factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ
			- Steams and vapours instead of fumes is used in answer category "chemicals, dusts, fumes, smoke or gases"	~
RO	2	**Country**	-	
		Expert	-	
		TNO	- It seems that the factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ
SI	4	**Country**	-	
		Expert	- No reference is made to the fact that the factor exposed to should “adversely affects … physical health". Instead, factor most exposed to is asked.	▲
			- Not 'particular' exposure, i.e. exposure clearly more frequent or more intensive than people experience in general day life, is asked, but factor most exposed to is asked.	Δ
			- Question on factor most affecting physical health is lacking	x
		TNO	See expert	
SK	1	**Country**	Some respondents (miners, soldiers, and chemists) have difficulties to choose the main factor affecting physical health.	~
		Expert	Answer categories not included in the question.	~
		TNO	-	
FI	5	**Country**	Among those who named several factors at work, choosing the main one was sometimes problematic.	~
		Expert	-	
		TNO	- It seems that the factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ
SE	2	**Country**	-	
		Expert	“Fire” instead of “fumes” in the answer category “chemical, dusts, fumes, smoke or gases”.	~
		TNO	- It seems that the factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ

UK	2	**Country**	-	
		Expert	Question does not refer to ‘particular’ exposure (see TNO)	
		TNO	- It seems that the factor most exposed to, and not 'particular' exposure, i.e. exposure clearly more frequent/intensive than people experience in general day life, is asked.	Δ
			- First exposure is asked, without "that can adversely affect your “well-being". Subsequently, it is asked which of these factors is the greatest risk for physical health.	Δ
NO	2	**Country**	-	
		Expert	Norwegian question asks for the degree of the effect ("influence to a considerable degree"), Eurostat version provides direction of the effect ("adversely affect")	~
		TNO	“Noise and vibration” are asked with separate answer categories	Δ
HR	5	**Country**	-	
		Expert	In the first question about chemicals, dust etc, there is "mental" instead of "physical" health. In the second overall question there is “physical”.	~
		TNO	-	

F Additional tables for accidents at work

Table A Accidents at work resulting in injury during the past 12 months (C209)

	EU27	
	N*	%
None	211.06	96.82
One	6.15	2.82
Two or more	0.78	0.36
Total	217.98	100.00

* Weighted figures in millions

Table B Type of most recent accident at work or in the course of work (C210)

	EU27	
	N*	%
A road traffic accident	0.67	0.31
Accident other than road traffic accident	6.24	2.86
Not applicable	211.06	96.83
Total	217.97	100.00

* Weighted figures in millions

Table C Date when the person was able to start to work again after the most recent accident (C211/212)

	EU27	
	N*	%
Still off work because has not yet recovered from the accident, but expects to resume work later	0.36	0.17
Expects never to work again because of the accident	0.03	0.01
No time off or the same day as the accident	1.82	0.84
The day after the accident	0.50	0.23
From the second, but before the fifth day after the accident	0.86	0.40
From the fifth day but before two weeks after the accident	1.18	0.54
From two weeks but before one month after the accident	0.97	0.45
From one month but before three months after the accident	0.80	0.37
From three months but before six months after the accident	0.22	0.10
From six months but before nine months after the accident	0.06	0.03
Nine months or later after the accident	0.03	0.01
Not applicable	209.01	96.84
Total	215.82	100.00

* Weighted figures in millions

NB: IE is not included in EU27 figure since IE did not distinguish the following answer categories: “No time off or the same day as the accident” and “The day after the accident”.

Table D. Job done when the most recent accident occurred (C213)

	EU27	
	N*	%
Main current first job	5.91	2.71
Second current job	0.05	0.02
Last job	0.33	0.15
Job one year ago	0.34	0.16
Some other job	0.20	0.09
Not applicable	211.06	96.87
Total	217.89	100.00

* Weighted figures in millions

Table E Accidents at work in the past 12 months in the EU27 by employment status*

	Employment status	1 or more accidents (a)	Sick leave (a)	Sick leave > 1 month (a)	Road accidents (a)
		%	% of accidents	% of accidents	% of accidents
Men	Employed	4.1	77.0	22.9	10.0
	Unemployed	4.8	79.8	21.6	u
	Inactive	3.0	u	u	u
Women	Employed	2.2	64.9	18.1	9.3
	Unemployed	2.2	u	u	u
	Inactive	1.7	u	u	u
Total	Employed	3.2	73.4	21.5	9.8
	Unemployed	3.6	79.8	22.6	u
	Inactive	2.2	65.6	37.6	u

( ): limited reliability due to small sample size, u: not available or sample size below publication limit

* Persons in military service are not included since percentages of this employment status are not available or sample size below publication limit

Table F. Demographic characteristics of the target population

	Total population		Employed		Unemployed		Inactive	
	N*	%	N	%	N	%	N	%
Proportion of target population	217.89	100	203.87	93.52	5.64	2.59	8.45	3.88
Age								
15-24	24.73	11.35	21.16	10.38	1.32	23.40	2.22	26.31
25-34	53.66	24.62	50.25	24.65	1.69	29.95	1.73	20.44
35-44	60.05	27.55	57.64	28.27	1.28	22.76	1.13	13.36
45-54	52.43	24.05	50.44	24.74	0.94	16.75	1.05	12.38
55-64	27.11	12.44	24.38	11.96	0.40	7.14	2.32	27.51
Sex								
men	119.36	54.76	112.79	55.32	3.04	53.99	3.49	41.35
women	98.63	45.24	91.08	44.68	2.59	46.01	4.95	58.65
Education								
low	50.44	23.20	45.74	22.48	1.90	33.81	2.80	33.83
medium	111.62	51.34	104.74	51.47	2.83	50.38	4.03	48.75
high	55.35	25.46	53.02	26.05	0.89	15.81	1.44	17.42
Marital status								
single	93.01	42.74	85.38	41.95	3.42	60.67	4.18	49.57
married	124.60	57.26	118.13	58.05	2.21	39.33	4.26	50.43

* Weighted figures in millions

Table G. Demographic characteristics of employed persons with and without an accident

	Total population, employed		Employed, no accident		Employed, accident in main job		Employed, accident in other job	
	N*	%	N	%	N	%	N	%
Proportion of target population	203.87	100	197.34	96.80	6.01	2.95	0.52	0.25
Age								
15-24	21.16	10.38	20.32	10.30	0.71	11.85	0.12	23.30
25-34	50.25	24.65	48.52	24.59	1.56	25.87	0.17	33.25
35-44	57.64	28.27	55.75	28.25	1.75	29.15	0.13	25.22
45-54	50.44	24.74	49.01	24.84	1.36	22.63	0.07	13.84
55-64	24.38	11.96	23.73	12.02	0.63	10.49	0.02	4.39
Sex								
men	112.79	55.32	108.22	54.84	4.20	69.90	0.37	71.40
women	91.08	44.68	89.12	45.16	1.81	30.10	0.15	28.60
Education								
low	45.74	22.48	43.71	22.19	1.84	30.59	0.19	37.40
medium	104.74	51.47	101.28	51.42	3.21	53.53	0.24	46.77
high	53.02	26.05	51.99	26.39	0.95	15.87	0.08	15.83
Marital status								
single	85.38	41.95	82.23	41.74	2.83	47.13	0.32	61.56
married	118.13	58.05	114.76	58.26	3.18	52.87	0.20	38.44

* Weighted figures in millions

Table H Work-related characteristics of employed persons with accident in main job.

	N	%
Professional status		
employee	170.06	83.67
self-employed	29.69	14.61
family worker	3.49	1.72
Economic activity of the local unit		
Agriculture, hunting and forestry	9.88	4.87
Fishing	0.18	0.09
Mining and quarrying	0.87	0.43
Manufacturing	37.48	18.49
Electricity, gas and water supply	1.83	0.90
Construction	16.73	8.25
Wholesale, retail trade, repair	29.14	14.37
Hotels and restaurants	8.57	4.23
Transport, storage and communication	12.28	6.06
Financial intermediation	7.00	3.45
Real estate, renting	19.20	9.47
Public administration and defence	14.29	7.05
Education	14.28	7.05
Health and social work	19.46	9.60
Other community activities	9.10	4.49
Private households	2.29	1.13
Extra-territorial organisations	0.14	0.07
Occupation		
highly skilled, non-manual	77.37	38.18
low skilled, non-manual	49.25	24.30
highly skilled, manual	37.64	18.57
low skilled, manual	37.48	18.49
army	0.92	0.45

	N	%
Number of persons working at the local unit		
≤ 10 persons	47.75	27.04
>10 persons	128.85	72.96
Time since starting current employment		
<12 months	30.88	15.31
12-24 months	19.42	9.63
24-60 months	31.05	15.39
60 months or more	120.36	59.67
Full-time /part-time distinction		
full-time	167.62	82.56
part-time	35.41	17.44
Number of hours per week usually worked		
1-24	24.46	12.38
24-40	57.14	28.91
40	72.79	36.83
>40	43.23	21.87
Permanency of the job		
permanent	145.48	85.81
temporary	24.05	14.19
Shift work		
never shift work	118.16	82.30
shiftwork	25.41	17.70
Evening work		
never	107.10	62.79
sometimes	31.33	18.36
usually	32.15	18.85
Night work		
never	149.58	85.19
sometimes	13.85	7.89
usually	12.16	6.92
Saturday work		
never	90.82	51.91
sometimes	34.56	19.75
usually	49.59	28.34
Sunday work		
never	129.39	73.77
sometimes	22.35	12.74
usually	23.66	13.49
Atypical working hours		
never	76.49	43.54
sometimes	37.49	21.34
usually	61.69	35.12

G Additional tables for work-related health problems

Table A Illness(es), disability(ies) or other physical or psychic health problem(s) suffered by the person during the past 12 months, caused or made worse by work (C214)

	EU27		EU27 without France	
	N*	%	N	%
None	232.97	86.53	216.17	91.45
One	22.27	8.27	15.19	6.43
Two or more	14.0	5.20	5.03	2.13
Total	269.23	100.00	236.39	100.00

* Weighted figures in millions

Table B Type of the most serious complaint caused or made worse by work (C215/216)

	EU27		EU27 without France	
	N*	%	N	%
Bone, joint or muscle problem which mainly affects neck, shoulders, arms or hands	5.82	2.16	3.79	1.60
Bone, joint or muscle problem which mainly affects hips, legs or feet	3.59	1.33	2.54	1.08
Bone, joint or muscle problem which mainly affects back	10.24	3.80	5.73	2.42
Breathing or lung problem	1.33	0.49	1.04	0.44
Skin problem	0.67	0.25	0.26	0.11
Hearing problem	0.78	0.29	0.29	0.12
Stress, depression or anxiety	7.21	2.68	2.78	1.17
Headache and/or eyestrain	2.15	0.80	0.88	0.37
Heart disease or attack, or other problems in the circulatory system	1.91	0.71	1.20	0.51
Infectious disease (virus, bacteria or other type of infection)	0.67	0.25	0.51	0.22
Other types of complaint	1.88	0.70	1.17	0.50
Not applicable	232.97	86.54	216.17	91.46
Total	269.20	100.00	236.36	100.00

* Weighted figures in millions

Table C Whether the most serious complaint caused or made worse by work limits the ability to carry out normal day to day activities either at work or outside work (c217)

	EU27		EU27 without France	
	N*	%	N	%
No	10.25	3.82	5.45	2.31
Yes, to some extent	15.73	5.85	9.89	4.19
Yes, considerably	9.80	3.65	4.40	1.87
Not applicable	232.97	86.69	216.17	91.63
Total	268.76	100.00	235.91	100.00

* Weighted figures in millions

Table D Number of days off work during the last 12 months due to the most serious complaint caused or made worse by work (c218/219)

	EU27		EU27 without France	
	N*	%	N	%
The person has not been working during the past 12 months, but for reasons not related to the complaint caused or made worse by work (e.g. normal retirement)	5.65	2.11	3.43	1.45
Expects never to work again due to this illness	1.52	0.57	1.25	0.53
Less than one day or no time off	17.19	6.40	6.11	2.59
At least one day but less than four days	1.72	0.64	1.36	0.58
At least four days but less than two weeks	3.20	1.19	2.38	1.01
At least two weeks but less than one month	2.31	0.86	1.88	0.80
At least one month but less than three months	2.13	0.79	1.65	0.70
At least three months but less than six months	0.90	0.33	0.71	0.30
At least six months but less than nine months	0.37	0.14	0.29	0.12
At least nine months	0.54	0.20	0.44	0.18
Not applicable	232.97	86.76	216.17	91.72
Total	268.51	100.00	235.67	100.00

* Weighted figures in millions

Table E Job that caused or made worse the most serious complaint (C220)

	EU27		EU27 without France	
	N*	%	N	%
Main current (first) job	22.76	8.47	12.32	5.22
Second current job	0.99	0.04	0.72	0.03
Last job (persons not in employment)	4.95	1.84	2.90	1.23
Job one year ago	1.46	0.54	0.64	0.27
Some other job	4.19	1.56	1.93	0.82
Not applicable	235.25	87.55	218.02	92.43
Total	268.72	100.00	235.87	100.00

* Weighted figures in millions

Table F Work-related health problems in the EU27 (including France) by demographic characteristics

		work-related health problems	Sick leave	Sick leave > 1 month	Considerable limitations
		%	% of work-related health problems	% of work-related health problems	% of work-related health problems
Sex					
Men		13.6	42.5	18.4	26.4
Women		13.3	42.5	18.1	28.4
Age					
Men	15-24	6.1	39.9	10.1	18.4
	25-34	10.6	36.0	11.3	21.1
	35-44	13.8	40.1	15.1	23.5
	45-54	16.7	42.5	18.9	28.0

		work-related health problems	Sick leave	Sick leave > 1 month	Considerable limitations
		%	% of work-related health problems	% of work-related health problems	% of work-related health problems
	55-64	17.2	54.4	33.7	32.7
Women	15-24	7.1	36.2	9.3	19.4
	25-34	10.8	35.4	11.9	22.0
	35-44	13.0	40.5	15.4	27.0
	45-54	16.6	45.7	20.3	31.5
	55-64	15.5	50.7	29.5	32.9
Total	15-24	6.6	38.1	9.7	18.9
	25-34	10.7	35.7	11.6	21.6
	35-44	13.4	40.3	15.2	25.2
	45-54	16.7	44.1	19.6	29.7
	55-64	16.4	52.8	31.8	32.8
Education					
Men	low	14.6	46.6	25.6	32.4
	medium	14.0	45.0	17.9	25.3
	high	11.7	30.6	10.5	20.1
Women	low	14.0	48.3	26.5	36.7
	medium	12.6	43.6	17.4	26.5
	high	14.4	35.4	11.8	22.9
Total	low	14.3	47.4	26.0	34.4
	medium	13.3	44.4	17.7	25.9
	high	13.0	33.3	11.2	21.7
Marital status					
Men	Married	14.8	44.6	19.7	26.0
	Single	12.0	39.0	16.3	27.1
Women	Married	12.6	44.3	19.5	28.4
	Single	14.5	40.2	16.4	28.5
Total	Married	13.7	44.5	19.6	27.1
	Single	13.2	39.6	16.4	27.8

Table G Work-related health problems by employment status in EU27*

	Work status	Work-related health problems	Sick leave	Sick leave > 1 month	Considerable limitations
		%	% of work-related health prob-lems	% of work-related health problems	% of work-related health problems
Men	Employed	7.8	58.5	19.2	15.7
	Unemployed	6.7	73.7	43.2	22.6
	Inactive	13.8	91.1	84.8	43.7
Women	Employed	8.6	57.7	19.1	17.0
	Unemployed	6.5	66.8	39.2	21.4
	Inactive	8.6	83.5	73.9	36.3
Total	Employed	8.2	58.1	19.1	16.3
	Unemployed	6.6	70.4	41.3	22.0
	Inactive	10.4	87.2	79.3	39.7

Persons in military service are not included in this Table, since percentages of this employment status are not available or sample size below publication limit

* FR not included

Table H Demographic characteristics of the target population in EU27*

	Total population		Employed		Unemployed		Inactive	
	N[a]	%	N	%	N	%	N	%
Proportion of target population	236.39	100	177.34	75.02	11.28	4.77	47.73	20.19
Age								
15-24	23.87	10.10	18.70	10.54	1.65	14.66	3.48	7.28
25-34	52.02	22.01	43.59	25.58	2.88	25.57	5.54	11.62
35-44	59.47	25.16	50.07	28.23	2.89	25.60	6.51	13.64
45-54	54.95	23.25	43.51	24.53	2.54	22.48	8.91	18.66
55-64	46.09	19.50	21.48	12.11	1.32	11.68	23.29	48.79
Sex								
Men	121.00	51.2	98.43	55.50	5.80	51.44	16.73	35.05
women	115.39	48.81	78.91	44.50	5.48	48.56	31.00	64.95
Education								
Low	60.37	25.72	38.07	21.51	3.75	33.35	18.55	39.89
Medium	121.96	51.95	93.48	52.82	6.06	53.93	22.38	48.14
High	52.42	22.33	45.43	25.67	1.43	12.71	5.56	11.97
Marital status								
Single	94.20	39.93	72.63	41.04	6.03	53.54	15.51	32.54
married	141.76	60.08	104.36	58.96	5.23	46.46	32.17	67.46

* FR not included

a Weighted figures in millions

Table I Demographic characteristics of employed persons with and without a work-related health problem in the EU27*

	Total population, employed		Employed, no health problem		Employed, health problem in main job		Employed, health problem in other job	
	N[a]	%	N	%	N	%	N	%
Proportion of target population	177.34	100	162.84	91.82	12.36	6.96	1.86	1.05
Age								
15-24	18.70	10.54	18.57	10.60	0.49	3.96	0.12	6.26
25-34	43.59	25.58	43.21	24.66	2.13	17.23	0.34	18.48
35-44	50.07	28.23	49.49	28.25	3.60	29.15	0.50	26.72
45-54	43.51	24.53	42.83	24.45	4.10	33.15	0.58	31.31
55-64	21.48	12.11	21.10	12.05	2.04	16.51	0.32	17.34
Sex								
Men	98.43	55.50	97.22	55.49	6.48	52.45	1.05	56.23
Women	78.91	44.50	77.97	44.51	5.88	47.55	0.81	43.66
Education								
Low	38.07	21.51	37.58	21.50	2.62	21.20	0.42	22.76
Medium	93.48	52.82	92.25	52.76	6.82	55.22	1.08	58.04
High	45.43	25.67	45.00	25.74	2.91	23.58	0.36	19.20
Marital status								
Single	72.63	41.04	71.80	41.07	4.20	34.00	0.70	37.75
married	104.36	58.96	103.04	58.93	8.15	66.00	1.16	62.25

* FR not included

a Weighted figures in millions

Table J Work-related characteristics of employed persons with work related health problems in their main job in the EU27.

	EU27		EU27 without France	
	N	%	N	%
Professional status				
Employee	165.18	83.63	145.49	98.16
self-employed	28.92	14.64	26.43	15.09
family worker	3.41	1.73	3.23	1.84
Economic activity of the local unit				
Agriculture, hunting and forestry	9.56	4.85	8.66	4.96
Fishing	0.17	0.08	0.15	0.09
Mining and quarrying	0.84	0.43	0.82	0.47
Manufacturing	36.45	18.5	33.03	18.91
Electricity, gas and water supply	1.78	0.91	1.60	0.92
Construction	16.14	8.19	14.64	8.38
Wholesale, retail trade, repair	28.24	14.33	25.17	14.41
Hotels and restaurants	8.30	4.22	7.53	4.31
Transport, storage and communication	11.92	6.05	10.66	6.10
Financial intermediation	6.88	3.49	6.12	3.50
Real estate, renting	18.69	9.49	16.31	9.34
Public administration and defense	13.91	7.06	11.82	6.77
Education	14.01	7.11	12.42	7.11
Health and social work	18.96	9.62	16.03	9.18
Other community activities	8.89	4.51	7.91	4.53
Private households	2.13	1.08	1.67	0.95
Extra-territorial organisations	0.14	0.07	0.12	0.07
Occupation				
highly skilled, non-manual	75.76	38.47	66.71	38.21
low skilled, non-manual	47.89	24.32	42.43	24.30
highly skilled, manual	36.40	18.48	32.76	18.76
low skilled, manual	36.00	18.28	32.04	18.35
Army	0.89	0.45	0.66	0.38
Number of persons working at the local unit				
≤ 10 persons	46.03	26.84	40.25	26.60
>10 persons	125.44	73.16	111.07	73.40
Time since starting current employment				
<12 months	29.54	15.07	26.47	15.23
12-24 months	18.88	9.63	17.01	9.79
24-60 months	30.25	15.43	27.14	15.62
60 months or more	117.36	59.87	103.15	59.36
Full-time /part-time distinction				
full-time	163.00	82.61	144.44	82.55
part-time	34.32	17.39	30.52	17.45
Number of hours per week usually worked				
1-24	23.79	12.39	21.82	12.83
24-40	55.28	28.79	42.70	25.10
40	70.77	36.86	68.56	40.31
>40	42.16	21.96	37.02	21.76

	EU27		EU27 without France	
	N	%	N	%
Permanency of the job				
permanent	141.60	85.98	124.80	85.94
temporary	23.08	14.02	20.42	14.06
Shift work[1]				
never shift work	114.16	82.20	96.13	80.64
shift work	24.73	17.80	23.08	19.36
Evening work[1,2]				
never	104.88	62.71	80.46	62.44
sometimes	30.67	18.34	26.54	18.32
usually	31.70	18.95	27.88	19.25
Night work[1]				
never	144.90	85.21	126.11	85.38
sometimes	13.38	7.87	11.39	7.71
usually	11.77	6.92	10.20	6.91
Saturday work[1]				
never	88.03	51.95	77.54	52.72
sometimes	33.17	19.57	28.37	19.29
usually	48.24	28.47	41.18	28.00
Sunday work[1]				
never	125.25	73.73	109.66	74.34
sometimes	21.56	12.69	18.05	12.24
usually	23.06	13.57	19.90	13.42
Atypical working hours[1]				
never	74.06	43.53	65.10	44.05
sometimes	36.02	21.17	31.10	21.04
usually	60.07	35.30	51.60	34.91

1 UK not included in EU27 figure since data are not available, 2 PT not included in EU27 figure since data are not available

Table K Work-related health problems of employed persons in the EU27 by work characteristics (persons with health problems caused or made worse by their main job)

		work-related health problems	Sick leave	Sick leave > 1 month	Considerable limitations
		%	% of work-related health problems	% of work-related health problems	% of work-related health problems
Professional status					
Men	Self-employed	12.2	33.3	10.1	22.2
	Employee	10.7	40.7	13.3	21.6
	Family worker	7.1	u	u	u
Women	Self-employed	12.1	35.7	10.6	22.4
	Employee	12.4	39.2	12.3	25.0
	Family worker	10.9	54.0	u	24.8
Total	Self-employed	12.2	34.0	10.2	22.3
	Employee	11.5	40.0	12.8	23.3
	Family worker	9.7	51.3	16.4	23.9
Economic activity					
Men	Agriculture, hunting and forestry	16.1	40.8	13.3	23.8
	Fishing	u	u	u	u
	Mining and quarrying	13.9	56.6	u	u
	Manufacturing	10.5	43.1	13.4	20.4
	Electricity, gas and water supply	10.0	43.8	u	u
	Construction	11.3	43.3	13.9	24.8
	Wholesale retail trade, repair	10.2	34.3	10.4	24.2
	Hotels and restaurants	8.3	34.0	u	23.9
	Transport, storage and communication	11.8	43.5	15.7	20.0
	Financial intermediation	8.7	30.7	u	17.5
	Real estate, renting and business activities	10.2	26.2	7.4	17.2
	Public administration and defense	11.1	42.2	14.3	20.5
	Education	11.6	36.8	12.1	25.9
	Health and social work	12.2	36.4	12.3	21.9
	Other community activities	10.1	37.6	u	21.0
	Private households with employed persons	u	u	u	u
	Extra-territorial organizations and bodies	u	u	u	u
Women	Agriculture, hunting and forestry	16.7	53.2	17.2	25.1
	Fishing	u	u	u	u

		work-related health problems	Sick leave	Sick leave > 1 month	Considerable limitations
		%	% of work-related health problems	% of work-related health problems	% of work-related health problems
	Mining and quarrying	u	u	u	u
	Manufacturing	11.5	43.9	13.1	26.0
	Electricity, gas and water supply	u	u	u	u
	Construction	7.5	u	u	u
	Wholesale retail trade, repair	9.7	37.0	11.8	23.6
	Hotels and restaurants	9.4	40.3	14.8	25.3
	Transport, storage and communication	12.1	42.6	14.5	25.5
	Financial intermediation	11.8	31.5	u	19.0
	Real estate, renting and business activities	10.7	31.4	9.0	23.0
	Public administration and defense	14.3	40.5	14.1	24.4
	Education	13.2	40.1	10.4	20.9
	Health and social work	15.9	39.4	13.0	27.5
	Other community activities	11.3	33.4	10.2	25.3
	Private households with employed persons	10.6	28.8	u	38.7
	Extra-territorial organizations and bodies	u	u	u	u
Total	Agriculture, hunting and forestry	16.3	45.7	14.9	24.3
	Fishing	u	u	u	u
	Mining and quarrying	13.0	55.1	u	u
	Manufacturing	10.8	43.4	13.3	22.2
	Electricity, gas and water supply	10.1	43.4	u	u
	Construction	11.0	42.0	13.5	24.5
	Wholesale retail trade, repair	9.9	35.6	11.1	23.9
	Hotels and restaurants	8.9	37.8	13.1	24.8
	Transport, storage and communication	11.9	43.2	15.4	21.4
	Financial intermediation	10.2	31.2	9.9	18.4
	Real estate, renting and business activities	10.4	28.6	8.1	19.9

		work-related health problems	Sick leave	Sick leave > 1 month	Considerable limitations
		%	% of work-related health problems	% of work-related health problems	% of work-related health problems
	Public administration and defense	12.6	41.3	14.2	22.6
	Education	12.7	39.2	10.9	22.2
	Health and social work	15.1	38.9	12.9	26.5
	Other community activities	10.7	35.2	11.2	23.5
	Private households with employed persons	10.6	27.8	u	37.6
	Extra-territorial organizations and bodies	u	u	u	u
Occupation					
Men	Highly skilled, non-manual	10.3	29.5	8.9	18.0
	Low skilled, non-manual	9.1	43.2	14.3	22.8
	Highly skilled, manual	13.0	43.5	13.7	24.3
	Low skilled, manual	10.6	46.7	16.4	23.4
	Army	13.6	u	u	u
Women	Highly skilled, non-manual	12.8	36.5	10.0	20.9
	Low skilled, non-manual	10.9	37.1	12.3	25.8
	Highly skilled, manual	15.4	51.5	16.2	25.2
	Low skilled, manual	13.2	44.2	16.1	32.9
	Army	u	u	u	u
Total	Highly skilled, non-manual	11.5	33.2	9.5	19.5
	Low skilled, non-manual	10.4	38.7	12.9	25.0
	Highly skilled, manual	13.4	45.1	14.2	24.5
	Low skilled, manual	11.5	45.7	16.3	27.2
	Army	14.6	u	u	u
Size of firm					
Men	10 persons or less	10.9	34.0	10.4	21.0
	More than 10 persons	11.0	42.0	13.8	21.7
Women	10 persons or less	10.7	35.1	10.1	25.9
	More than 10 persons	13.2	41.1	13.2	24.5
Total	10 persons or less	10.8	34.5	10.3	23.5
	More than 10 persons	11.9	41.6	13.5	23.0

		work-related health problems	Sick leave	Sick leave > 1 month	Considerable limitations
		%	% of work-related health problems	% of work-related health problems	% of work-related health problems
Time since started to work					
Men	<12 months	5.9	30.8	9.1	18.8
	12 to 24 months	8.0	36.9	9.1	20.2
	24 to 60 months	9.1	37.9	11.4	21.0
	60 months or more	13.1	40.6	13.5	22.3
Women	<12 months	6.6	31.2	6.4	21.8
	12 to 24 months	9.5	38.0	11.0	22.8
	24 to 60 months	10.1	37.5	10.1	22.2
	60 months or more	15.0	40.6	13.4	25.8
Total	<12 months	6.2	31.0	7.8	20.3
	12 to 24 months	8.7	37.4	10.1	21.5
	24 to 60 months	9.6	37.7	10.8	21.6
	60 months or more	14.0	40.6	13.5	23.9
Full-time and part-time employment					
Men	Fulltime	11.2	38.9	12.4	21.5
	Part-time	7.5	46.6	17.9	26.8
Women	Fulltime	13.3	38.5	11.3	23.6
	Part-time	10.1	41.4	15.3	28.2
Total	Fulltime	12.0	38.7	11.9	22.4
	Part-time	9.5	42.3	15.7	28.0
Hours of work per week					
Men	1-24	6.9	45.4	19.3	30.6
	25-39	15.9	37.1	12.4	26.3
	40	7.3	50.7	15.9	16.5
	>40	13.2	31.7	9.7	20.8
Women	1-24	7.8	44.3	15.9	26.3
	25-39	17.4	35.3	11.9	27.8
	40	8.9	47.9	12.8	17.9
	>40	15.4	34.3	9.7	23.4
Total	1-24	7.6	44.5	16.6	27.1
	25-39	16.7	36.1	12.1	27.1
	40	7.9	49.5	14.6	17.1
	>40	13.8	32.5	9.7	21.6
Permanency of the job					
Men	Permanent	11.3	41.3	13.4	22.0
	Temporary	6.8	37.1	12.5	18.3
Women	Permanent	13.0	40.0	12.9	25.5
	Temporary	8.8	33.2	7.9	21.0
Total	Permanent	12.1	40.6	13.2	23.7
	Temporary	7.8	34.9	9.9	19.8
Shiftwork					
Men	Never shift work	12.0	36.3	11.9	22.4
	Shift work	11.5	53.7	15.9	19.0
Women	Never shift work	14.0	35.5	10.8	26.1
	Shift work	13.8	49.5	14.7	21.2
Total	Never shift work	13.0	35.9	11.4	24.3
	Shift work	12.5	51.7	15.3	20.1
Atypical work (evening, night, weekend)					
Men	Never atypical	10.0	40.1	14.8	24.0

		work-related health problems	Sick leave	Sick leave > 1 month	Considerable limitations
		%	% of work-related health problems	% of work-related health problems	% of work-related health problems
	Sometimes atypical	13.6	37.6	10.9	18.5
	Usually atypical	13.5	37.3	10.9	22.3
Women	Never atypical	11.3	38.3	13.3	25.0
	Sometimes atypical	15.3	39.2	10.9	21.8
	Usually atypical	16.2	37.5	10.4	26.4
Total	Never atypical	10.6	40.1	14.8	24.0
	Sometimes atypical	14.3	37.6	10.9	18.5
	Usually atypical	14.7	37.3	10.9	22.3
Evening work					
Men	Never	11.0	38.9	13.5	23.4
	Sometimes	14.5	35.9	10.3	19.2
	Usually	13.3	39.6	11.1	20.5
Women	Never	16.0	36.4	12.0	26.0
	Sometimes	16.2	40.7	10.2	20.7
	Usually	16.0	41.1	11.8	24.5
Total	Never	11.9	37.6	12.7	24.7
	Sometimes	15.1	37.8	10.3	19.8
	Usually	14.4	40.3	11.4	22.3
Night work					
Men	Never	11.4	38.5	12.4	22.2
	Sometimes	16.6	35.7	10.5	20.2
	Usually	14.2	40.2	12.6	21.4
Women	Never	13.3	37.7	11.8	25.3
	Sometimes	18.3	39.1	8.9	22.2
	Usually	16.5	43.8	12.6	23.0
Total	Never	12.3	38.1	12.1	23.8
	Sometimes	17.1	36.8	10.0	20.9
	Usually	14.9	41.4	12.6	21.9
Saturday work					
Men	Never	10.3	40.4	14.0	23.3
	Sometimes	14.4	37.9	11.0	19.0
	Usually	13.6	35.8	10.8	22.3
Women	Never	11.6	38.8	12.9	24.5
	Sometimes	16.0	39.3	11.6	23.0
	Usually	16.5	36.7	10.0	26.7
Total	Never	11.0	39.6	13.4	23.9
	Sometimes	15.0	38.4	11.3	20.6
	Usually	14.9	36.4	10.4	24.5
Sunday work					
Men	Never	11.2	39.2	12.7	22.0
	Sometimes	15.4	35.8	10.6	20.7
	Usually	14.0	37.4	11.9	22.6
Women	Never	12.3	38.1	12.0	24.9
	Sometimes	18.2	37.9	10.0	24.3
	Usually	17.8	38.9	11.8	25.7
Total	Never	11.7	38.6	12.3	23.4
	Sometimes	16.5	36.7	10.4	22.3
	Usually	15.7	38.1	11.8	24.2

Table L Contribution of demographic and work characteristics to the likelihood of a work-related health problem in the past 12 months

	Univariate analyses		Multivariate analyses Model 1[1]		Multivariate analyses Model 2[2]	
	OR	CI	OR	CI	OR	CI
Gender						
Men	ref					
Women	1.14	1.11-1.17	1.10	1.07-1.14	1.39	1.33-1.45
Age						
15-24 jr	0.50	0.47-0.53	0.46	0.43-0.49	0.61	0.57-0.65
25-34 jr	0.89	0.86-0.92	0.84	0.81-0.87	0.88	0.84-0.91
35-44 jr	1.16	1.12-1.19	1.16	1.13-1.20	1.07	1.03-1.11
45-54 jr	1.45	1.41-1.49	1.47	1.42-1.51	1.29	1.24-1.33
55-64 jr	1.34	1.30-1.39	1.52	1.46-1.57	1.37	1.30-1.43
Country						
BE	1.47	1.38-1.58	1.45	1.36-1.55	1.54	1.35-1.75
BG	0.50	0.45-0.55	0.48	0.43-0.52	0.47	0.41-0.53
CZ	1.10	1.04-1.16	1.08	1.02-1.14	1.04	0.98-1.11
DK	1.55	1.46-1.65	1.57	1.48-1.66	1.75	1.64-1.87
DE	1.00	0.95-1.05	0.98	0.93-1.03	1.01	0.95-1.07
EE	0.95	0.87-1.04	0.94	0.85-1.02	0.90	0.82-1.00
IE	0.30	0.28-0.33	0.32	0.30-0.34	0.35	0.29-0.42
EL	0.78	0.74-0.83	0.77	0.73-0.81	0.68	0.63-0.73
ES	0.66	0.62-0.70	0.67	0.64-0.72	0.74	0.69-0.80
FR	12.68	12.18-13.2	13.0	12.5-13.6	13.4	12.8-14.0
IT	1.11	1.06-1.16	1.09	1.04-1.14	1.11	1.05-1.17
CY	1.13	1.02-1.26	1.14	1.02-1.27	1.07	0.94-1.22
LV	0.38	0.29-0.49	0.38	0.29-0.50	0.32	0.23-0.43
LT	0.42	0.36-0.49	0.41	0.35-0.48	0.39	0.33-0.47
LU	0.35	0.30-0.40	0.34	0.29-0.40	0.39	0.33-0.45
HU	0.59	0.55-0.63	0.57	0.53-0.61	0.53	0.49-0.58
MT	0.75	0.64-0.88	0.81	0.68-0.95	0.67	0.55-0.81
NL	1.10	1.05-1.15	1.12	1.08-1.17	1.36	1.29-1.43
AT	1.96	1.84-2.08	2.03	1.91-2.16	1.99	1.86-2.14
PL	2.93	2.81-3.07	3.01	2.88-3.14	2.47	2.33-2.62
PT	0.97	0.88-1.06	0.92	0.83-1.01	0.91	0.82-1.02
RO	0.58	0.54-0.62	0.58	0.54-0.62	0.46	0.42-0.51
SI	1.29	1.18-1.42	1.30	1.18-1.42	1.21	1.09-1.34
SK	0.56	0.51-0.62	0.57	0.52-0.62	0.48	0.43-0.53
FI	4.17	3.99-4.36	4.13	3.95-4.32	4.24	4.03-4.46
SE	2.32	2.24-2.41	2.30	2.22-2.39	2.51	2.41-2.63
UK	0.56	0.53-0.59	0.56	0.53-0.59	[3]	
HR	0.71	0.62-0.82	0.68	0.59-0.78	0.68	0.59-0.78
NO	1.30	1.22-1.39	1.30	1.22-1.39	1.30	1.22-1.39
Professional status						
Employee	ref					
Self employed	1.07	1.02-1.11	1.13	1.09-1.18	[3]	
Sector						
Agriculture, hunting and forestry	1.53	1.43-1.64	1.57	1.45-1.69	1.11	0.96-1.28
Fishing	u	u	u	u	u	u
Mining and quarrying	1.17	0.99-1.40	1.50	1.24-1.81	1.32	1.08-1.62
Manufacturing	0.95	0.90-1.01	1.04	0.98-1.11	0.93	0.86-1.01
Electricity, gas and wa-	0.88	0.74-1.06	0.89	0.74-1.07	0.83	0.68-1.02

	Univariate analyses		Multivariate analyses Model 1[1]		Multivariate analyses Model 2[2]	
	OR	CI	OR	CI	OR	CI
ter supply						
Construction	0.97	0.91-1.04	1.22	1.14-1.31	1.23	1.12-1.36
Wholesale retail trade, repair	0.86	0.81-0.92	0.91	0.85-0.97	0.98	0.90-1.06
Hotels and restaurants	0.77	0.70-0.84	0.94	0.85-1.04	1.05	0.93-1.19
Trans-port/storage/communication	1.05	0.98-1.14	1.11	1.02-1.20	1.02	0.93-1.13
Financial intermediation	0.90	0.82-0.98	0.90	0.81-0.99	0.99	0.87-1.12
Real estate, renting and business activities	0.91	0.85-0.98	0.85	0.79-0.91	0.95	0.86-1.04
Public administration and defense	1.13	1.06-1.21	0.93	0.86-1.00	0.96	0.87-1.05
Education	1.15	1.07-1.23	1.06	0.98-1.14	1.12	1.02-1.22
Health and social work	1.40	1.32-1.49	1.14	1.06-1.22	1.11	1.01-1.21
Other community activi-ties	0.94	0.87-1.03	0.96	0.88-1.05	0.97	0.87-1.09
Private households with employed persons	0.93	0.79-1.09	0.56	0.47-0.67	0.67	0.55-0.81
Extra-territorial organi-zations and bodies	u	u	u	u	u	u
Occupation						
Highly skilled non ma-nual	0.93	0.89-0.98	0.90	0.85-0.95	0.93	0.87-0.99
Low skilled, non manual	0.83	0.79-0.88	0.86	0.81-0.92	0.89	0.84-0.96
Highly skilled, manual	1.11	1.06-1.17	1.34	1.26-1.42	1.29	1.20-1.39
Low skilled, manual	0.94	0.89-0.99	1.03	0.97-1.10	1.14	1.06-1.21
Army	1.23	1.04-1.46	0.93	0.76-1.15	0.82	0.66-1.02
Size firm						
>10 persons	ref					
10 persons or less	0.89	0.86-0.93	0.85	0.82-0.89	0.88	0.83-0.92
Time since started to work						
60 months or more	ref					
<12 months	0.41	0.38-0.43	0.49	0.46-0.52	0.55	0.51-0.59
12-24 months	0.58	0.55-0.62	0.74	0.69-0.79	0.79	0.73-0.85
24-60 months	0.65	0.62-0.68	0.80	0.76-0.84	0.82	0.77-0.87
Fulltime and part-time employment						
Full time	ref					
Part time	0.77	0.74-0.80	0.71	0.67-0.74	0.76	0.71-0.81
Hours of work per week						
40 hrs/wk	ref					
1-24 hrs/wk	0.96	0.91-1.01	0.71	0.66-0.75		
25-39 hrs/wk	2.34	2.26-2.42	1.15	1.10-1.20		
>40 hrs/wk	1.86	1.79-1.94	1.33	1.27-1.39		
Permanency of the job						
Permanent	ref					
Temporary	0.62	0.58-0.65	0.66	0.62-0.71	0.84	0.78-0.91
Shift work						
No shift work	ref					
Shift work	0.96	0.92-1.00	1.43	1.37-1.49	1.18	1.11-1.24

	Univariate analyses		Multivariate analyses Model 1[1]		Multivariate analyses Model 2[2]	
	OR	CI	OR	CI	OR	CI
Atypical work (evening, night, weekend)						
Never	ref					
Sometimes	1.40	1.34-1.46	1.27	1.21-1.32	1.25	1.19-1.32
Usually	1.45	1.40-1.50	1.48	1.42-1.54	1.37	1.31-1.45
Evening work						
Never	ref					
Sometimes	1.33	1.28-1.38	1.28	1.22-1.34		
Usually	1.25	1.20-1.30	1.51	1.44-1.57		
Night work						
Never	ref					
Sometimes	1.48	1.41-1.56	1.36	1.28-1.44		
Usually	1.25	1.18-1.32	1.38	1.29-1.47		
Saturday work						
Never	ref					
Sometimes	1.43	1.38-1.49	1.26	1.20-1.31		
Usually	1.42	1.37-1.48	1.41	1.35-1.46		
Sunday work						
Never	ref					
Sometimes	1.49	1.43-1.56	1.26	1.20-1.32		
Usually	1.41	1.35-1.47	1.43	1.36-1.50		

[1] Adjusted for sex, age and country

[2] Additionally adjusted for other work-related factors

[3] Dropped as a result of missing data

( ): limited reliability due to small sample size, u: not available or sample size below publication limit

H Additional tables for harmful exposure

Table A. Mental exposure at work during the past 12 months (C221)

	EU27[b]	
	N*	%
No exposure	143.29	72.20
Yes, mainly to harassment or bullying	5.36	2.70
Yes, mainly to violence or threat of violence	4.32	2.18
Yes, mainly to time pressure or overload of work	45.48	22.92
Total	198.45	100.00

* Weighted figures in millions

[b]: MT and SI not included, since the main factor adversely affecting mental well-being was not assessed

Table B. Physical exposure at work during the past 12 months (C222)

	EU27[b]	
	N*	%
No exposure	117.73	59.36
Yes, mainly to chemicals, dusts, fumes, smoke or gases	16.75	8.45
Yes, mainly to noise or vibration	10.95	5.51
Yes, mainly to difficult work postures, work movements or handling of heavy loads	32.92	16.60
Yes, mainly to risk of accident	19.97	10.07
Total	198.33	100.00

* Weighted figures in millions

[b]: MT and SI not shown, since the main factor adversely affecting physical health was not assessed

Table D: Work-related characteristics of workers aged 15-64 years in the EU27

	N[a]	%
Professional status		
employee	179.61	83.82
self-employed	31.07	14.50
family worker	3.60	1.68
Economic activity of the local unit		
Agriculture, hunting and forestry	10.06	4.71
Fishing	0.18	0.09
Mining and quarrying	0.89	0.42
Manufacturing	39.52	18.49
Electricity, gas and water supply	1.91	0.89
Construction	17.62	8.24
Wholesale, retail trade, repair	30.70	14.36
Hotels and restaurants	9.07	4.24
Transport, storage and communication	12.97	6.07
Financial intermediation	7.44	3.48
Real estate, renting	20.48	9.58
Public administration and defence	15.07	7.05
Education	14.90	6.97
Health and social work	20.67	9.67
Other community activities	9.72	4.55
Private households	2.35	1.10
Extra-territorial organisations	0.15	0.07
Occupation		
highly skilled, non-manual	81.87	38.34

	N[a]	%
Professional status		
low skilled, non-manual	52.11	24.40
highly skilled, manual	39.37	18.43
low skilled, manual	39.27	18.39
army	0.94	0.44
Number of persons working at the local unit		
≤ 10 persons	49.87	26.76
>10 persons	136.50	73.24
Time since starting current employment		
<12 months	32.91	15.49
12-24 months	20.59	9.69
24-60 months	32.78	15.43
60 months or more	126.20	59.39
Full-time /part-time distinction		
full-time	167.33	82.37
part-time	37.74	17.63
Number of hours per week usually worked		
1-24	26.11	12.53
24-40	60.39	28.97
40	76.13	36.52
>40	45.83	21.98
Permanency of the job		
permanent	153.36	85.66
temporary	25.67	14.34
Shift work		
never shift work	124.08	82.29
shiftwork	26.70	17.71
Evening work		
never	111.66	62.41
sometimes	32.98	18.43
usually	34.28	19.16
Night work		
never	156.51	85.07
sometimes	14.57	7.92
usually	12.90	7.01
Saturday work		
never	95.26	51.96
sometimes	36.24	19.77
usually	51.84	28.28
Sunday work		
never	135.38	73.66
sometimes	23.56	12.82
usually	24.84	13.52
Atypical working hours		
never	79.92	43.42
sometimes	39.32	21.36
usually	64.83	35.22

[a] Weighted figures in millions